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Textile World

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An Agreement in Promotion *of Trade*

MUCH loose thinking has been generated by the discussion of the need for repeal or amendment of existing anti-trust legislation. As usual, this loose thinking has generated, in turn, a proportionate amount of pointless oratory.

In sharp contrast to many of the utterances on this subject was the address of Walker D. Hines before the Taylor Society last week. In the first place, Mr. Hines had the advantage of knowing, from a legal standpoint, what he was talking about. In the second place, his close knowledge of the needs of industry enabled him to mix common-sense with law—and to suggest a line of action which would be both legal and practical.

The major thought of his address may be summarized as follows: We are all familiar with the procedure which has been successfully adopted in the cotton-textile industry whereby, after discussion, the respective mills take individual action—a step which is believed to be of unquestioned legality. However, Mr. Hines has the profound conviction that it would also be legal to go further, and to make and carry out a positive agreement among the units in a badly over-extended industry, to balance production and demand.

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Fundamentally, his argument is based on his refusal to consider a law as a static doctrine. "I take it," he said, "that a law in the very broad terms of the Anti-Trust Act should be interpreted in harmony with present-day conditions."

Consequently he quite logically argues: "If there ever was a time when artificial and fragmentary rules could be applied with the result that an agreement to balance production with demand would be condemned without regard to the need for stability, that time is past and we are now justified in asking both administrative and judicial agencies to consider, in the light of present-day realities, whether an undertaking for rational planning for the avoidance of over-production shall be regarded as an agreement *in restraint of trade* on the one hand or as an agreement *in promotion of trade* on the other." (Italics are ours.)

It was this thought we had in mind, in a slightly different connection, when we stated editorially last July: "We hope—and believe—that some day our national conception of 'unfair competition' will change. We look for a realization of the fact that sellers of goods at unprofitable prices are demoralizing the market and therefore acting 'in restraint of interstate trade and commerce'; and that they are as culpable as are the sellers who conspire to bring about artificially inflated prices."

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It would be unfortunate if Mr. Hines' address were merely applauded and then "filed for information." We hope that it will be made the basis of continued thought and discussion with a view toward developing a more intense interest in the whole subject on the part of industry itself, and a better-informed approach to the present-day needs of business on the part of administrative and judicial agencies.

The Department of Justice, we believe, no longer conceives of its function toward industry as a purely punitive one. It now assumes that American business, by and large, is fundamentally honest—and that what it needs are guide posts rather than traffic cops. Consequently, we are encouraged to anticipate a helpful attitude, on the Department's part, toward such constructive suggestions as the one advanced by Mr. Hines.

We still believe, as we stated more than a year ago, that "the textile industry has a long way to go before it will have availed itself of the opportunities for coordinated action which are entirely legal under existing legislation."

Mr. Hines has pointed out one possible step toward fuller utilization of those opportunities. The Government cannot be expected to take the initiative in developing such a possibility. It is up to industrialists, collectively and individually, to lay the groundwork, through full and frank discussion, for a better national understanding of modern economic trends. Certainly, we can visualize more far-reaching results in this direction than could be expected from any other single line of endeavor.

The Week in Textiles

as Reflected in This Issue

General

Chemical Industries Show

The thirteenth Exposition of Chemical Industries was current at the Grand Central Palace, New York, this week. Devices for handling chemicals and the chemicals themselves interested members of the textile industry which was well represented in the attendance. *(page 22)*

Narrow-Fabric Manufacture

Extra warps may be incorporated in a narrow fabric for weight, figure, strength, or stitching. How the extra warp is added for each of these purposes is explained. *(page 26)*

American Art in Textiles

Exhibit of modern American industrial art opened at Brooklyn (N. Y.) Museum May 1 and will carry through to July 1. Textiles are important as parts of interior decoration schemes. Observers find a distinctive American art in American textiles which frees them from all dependance on foreign sources. *(page 29)*

Stock Dryer

Features of a new, single-apron, all-metal stock dryer include balanced heating, and coordination of air flow, travel of stock, and construction of equipment. *(page 38)*

Textile Microscope

A textile laboratory microscope, which is designed as a basic instrument for textile work, is offered. *(page 39)*

Distribution Symposium

Under auspices of New York Board of Trade a textile group sat at luncheon last week and heard recognized authorities speak critically on modern distribution methods. *(page 58)*

Cotton

Precautions in Twisting

Correct placing of knots is shown to be important in twisting thread for sewing or embroidery work. *(page 30)*

Cotton Data Still Bearish

The excessive weight of raw cotton supplies, present and prospective, is a strongly bearish factor, according to Dr. L. H. Haney's "TEXTILE WORLD Analyst" this week, and foreshadows a weak market unless weather or insects threaten radical curtailment of the crop now under way. He adds that lower yarn prices will be seen unless spinners hold production down. Cloth margins should improve. *(page 43)*

Raw Cotton Sags

Raw cotton continues to sag. The market is without well defined bullish support and the weight of the apparent excess supply is making itself felt. *(page 47)*

Cotton Yarns Featureless

April was the poorest month of this year with commission houses and trading to date in May shows no improvement. Prices are sagging slowly with weakness noted in two-ply combed numbers. *(page 47)*

Trying Times for Cottons

Certain sellers have weakened the strong position cotton goods had attained this year. Prices have been cut in a mad attempt to stimulate business, possibly due to weak mills needing orders. Print cloths have reacted much further than raw material justifies. *(page 51)*

Wool

Cap-Spun Worsted Yarns

A resume of the experiences of mills which have made studies on cap-spinning of various types of yarn discloses interesting facts. *(page 37)*

Wool Much Quieter

Wool is much quieter in Boston. The decline at London sales though expected gives food for thought. Buyers will now operate only at concessions, unless actual need for raw material pushes them. *(page 49)*

Men's Wear Yarns Selling

Activity in men's wear fabrics is having a noticeable effect in the sales yarn market. Spinners report active call for mixes. Bathing-suit manufacturers are asking for larger and prompter shipments. *(page 49)*

Wool Goods Show the Way

Activity in wool goods is attracting the attention formerly held by the cotton goods markets. Men's wear fabrics for fall are selling in large volume; women's summer coatings and white goods in flannels and cheviots are selling in women's wear field. Prices are showing more "backbone." *(page 51)*

Knitting

Obsolescence Work at Utica

Maintenance of efficiency of machinery as to quantity and quality of output is the principle which guides the Utica Knitting Co. in depreciation and obsolescence work. This may mean careful upkeep, or attachment of a new device, or complete replacement of machine. Obsolete equipment is either stored on the chance that further style change may bring it back into use or traded in for allowance on new machine. *(page 20)*

The Textile Outlook

THE fact that unwarranted price-cutting injures customers who bought before the cut, may frequently be thought about but might well be more frequently acted upon. Customers who helped give the cotton goods industry the biggest quarter ever recorded in many offices during the first three months of 1931, are being given a jolt by mills quoting low prices, and are forced to take a loss on goods in stock or coming on old orders. The wool goods field which is now showing the way for the whole textile industry, may well take stability as one of its prime responsibilities since so large a volume of advance business has been booked which can only be encouraged by decent protection to those who sign on the dotted line so early in the season . . . Cotton goods have dropped 2c. per pound for every 1c. lost in cotton; a decline plainly overdone. Wool goods are still brisk. Silk goods await more stability in raw silk. The hosiery price cut halted trade this week. Underwear is just stirring after price-cut paralysis. Bathing-suits threaten a shortage.

Cotton Knitting Yarns

Specifications and tests promulgated by Committee D-13 are suggested as guides in establishing tolerance in cotton knitting yarns. *(page 36)*

Full-Fashioned Price Cut

Cut in full-fashioned hosiery prices by large operators has had the usual effect of curtailing trading; buyers now regard the market with uncertainty. *(page 52)*

Underwear Quiet

Heavyweight underwear is quiet, buyers not having resumed activities since the price cut. They are waiting for the market to stabilize. *(page 52)*

Talk Shortage in Bathing-Suits

Shortage in bathing-suits is the topic of interest in knitted outerwear and most houses are refusing to promise deliveries until June. *(page 52)*

Wool Industry's Night Work Proposal

THE woolen and worsted industry has an opportunity to take an important step forward. If it approves the recommendation of the directors of the Wool Institute for the elimination of night employment of women and minors, it will have joined the cotton manufacturing industry in a movement which is sound from both humanitarian and economic considerations.

To Eben E. Whitman goes credit for the fearless manner in which he has persistently brought this to the attention of leaders in the industry.

The cotton division, through similar action, has experienced marked improvement in both tone and actual business. Wool manufacturers can anticipate like results. In addition, as we have pointed out before, they will have provided the inspiring picture of two major branches of the textile industry presenting a united front on this vital problem.—*Editor.*

Silk

Shantungs

Consumer demand for shantungs continues. Constructions are given of popular fabrics of this type in silk and rayon. *(page 28)*

Measuring Evenness

Results of studies on 9-meter sizings as a measurement of evenness show simplicity and accuracy of this method of examining raw and thrown silk. *(page 31)*

Raw Silk More Active

May has witnessed improved demand for raw silk. Admitting that this may prove temporary, possibly to be followed by price weakness, there are predictions that the bottom is being scraped and an upturn may soon surprise the trade. *(page 50)*

Thrown Silk Good at Spot

Trading in thrown silk has been at the best rate of the year. Buying is of a conservative nature, mills refusing to place contracts in advance. Spot business has been steady. Spun silk yarns have been dull, as it is between-seasons. *(page 50)*

Summer Prints Moving

Although cheap prints are a factor in the broadsilk market, their importance is growing less. Price-cutting began too early, it is now known, and houses which specialize in quality merchandise are doing a fair business now at fair prices. *(page 51)*

Black Satin

Black satin was hailed as one of the most important fabrics for fall and winter of 1931 at a joint style conference last week in New York under auspices of the Allied Industries of Shoes & Leather. *(page 56)*

Rayon

British Rayon Sales Gain

British rayon production for March amounted to 4,040,000 lb. against 3,580,000 lb. in February. Sales were reported for March at 4,300,000 lb. against 3,660,000 for February. Taking the two months together stocks were reduced by 340,000 lb.

Courtaulds Cut Spinners' Wages

Advice from England states that Courtaulds are reducing rayon spinners' wages 2½ pence per hour and that strikes were in progress this week at Coventry and Wolverhampton plants which if persisted in will soon halt production. The company is very determined, and the operatives have a weak case in view of falling price levels.

Rayon-Wool Mixtures

Accurate determination of percentage of rayon in wool-rayon mixtures requires skillful analysis. *(page 35)*

Rayon Setting Fast Pace

There is a good demand for rayon. Large producers report that orders were in excess of production in April and they predict that this condition will continue for several months. Seasonal dullness is not expected. *(page 50)*

Processing

Screen Printing

Improved methods of screen printing allow production of patterns on wide range fabrics and permit use of vat dyes on silk and wool. Illustrations show scope of process. *(page 24)*

Finishing Knitted Fabric

Directions are given to prevent mill wrinkles in fulling knitted fabric. *(page 36)*

Wool Dyeing

Addition of pyridine to the dye bath is recommended as one of the measures to be taken to insure production of level shades on carbonized wool fabric which must be dyed with a combination of colors which frequently causes trouble. *(page 36)*

The Chemical Salesman

The chemical salesman's side of the story was interestingly presented by R. E. Sumner at the recent meeting of the Piedmont Section of the American Association of Textile Chemists & Colorists at Greenville. *(page 57)*

The Business Outlook

THE curious economic coma continues. Weekly fluctuations in the patient's pulse are slight and insignificant. Our index remains frozen at the depression level of the last five months. The decline in steel activity is slow and no more than seasonal and there are no signs of marked change in demand. The same static condition persists in electric power production, in check payments, currency circulation and merchandise carloadings. A few faint favorable flickers are seen in a rise in residential building at the close of April and in some slight strengthening of wheat prices and bond markets. Most commodities, however, continue to weaken and stocks drift indecisively downward. The foreign picture shows no improvement. Domestic and national business conferences come to a close without large scale constructive accomplishment. The Federal Reserve authorities are pushing aggressively their policy of forcing lower short term money rates. Ultimately this invitation to business initiative will doubtless prove effective, but ultimately also the depression will disappear.—*The Business Week.*

Alert Staff Keeps Utica Knitting Equipment *Up-to-Date*

Eleventh Article in Series

Interview by JOHN BLACK *with*

Ralph M. Jones

Vice-President and General Superintendent
Utica Knitting Co., Utica, N. Y.

WITH regard to machinery depreciation and obsolescence in the broadest sense, we rely largely on the alertness and observation of our foremen and superintendents. They are keenly awake to the need for keeping equipment efficient both as regards quantity and quality of output. We have fixed schedules on certain aspects, but we do not maintain a clerical force to keep record of individual machines, for instance; it would involve a great amount of detailed work and we doubt whether the results would justify its cost.

Utica, N. Y.

But we recognize the vital need for keeping abreast of machinery development, and we are constantly on the alert for new devices that will cut cost in time or labor or that will improve the quality of underwear we produce.

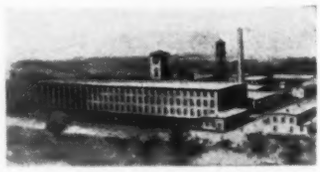
Clayville, N. Y.

There are certain general rules we follow. For example, our depreciation fund — and this covers both wear and obsolescence depreciation — is allowed 10% yearly as reserve against the machinery account. The age of a machine is no criterion of its value. Some of our machines are 40 years old and have have been operated night and day for long periods. The worn parts of these machines are replaced as required, and now they are in good running condition. Changing styles make some of our sewing machines obsolete, however, and we buy new improved machines to take their place. We either store the obsolete equipment in the hope of finding use for it later, or we exchange it for new machinery from the manufacturers, who allow us a rebate for return of old equipment.

We can get very good allowances this way. For example, a new machine might cost $300. The old machine does the same job, but the new unit does it better and cheaper. So we return the old unit and receive an allowance of $25 or $35, which represents a considerable discount.

However, we are not quick to trade in machines, as it frequently happens in the knit goods industry that unexpected changes in style or method bring an old machine back into service.

We do not pay taxes on machinery depreciation; the amount we budget for this is deductable from tax and we do deduct it. With regard to uniting obsolescence and depreciation in one fund, this seems the most practicable way; we see no need of dividing them. There are less revolutionary equipment changes in the underwear industry than in many other lines. The chief increase in efficiency comes from the use of new devices attached to machines to assist the operator to control or to speed up equipment and better application of the human element. These improvements represent better methods of handling material and of increasing employee efficiency, rather than any drastic new machinery which may supersede old ways and call for revolutionary change.



Richfield Springs, N. Y.

As a general thing, we do not sell old machines in the open market; this happens occasionally, but trade-in is the usual practice. Open sale of old machines is very inadvisable for the industry. It would be a big advantage to scrap and destroy all obsolete units; that would make it impossible for persons unfamiliar with the business to come in with small capital and flood the market with merchandise at foolishly low prices.

Right now it does not make much difference whether a manufacturer sells his old equipment in the open market or not. The last few years have been so hard that many knitting mills have failed and unusually large stocks of equipment can be had at low prices; so, whether the machinery-builder sells the second-hand units, or whether the original owners do, it doesn't alter the general result. It seems best for a knitting company to rely on its own standard, rather than to worry about price competition with the companies that operate used equipment.

Looking back over the developments in the underwear field, it seems to me the mechanical equipment is substantially the same as it was when I came here 28 years ago. The improvements through the years have been chiefly on hand machines such as the electric cutter, or the sewing machines. The big production equipment has changed little. The most important aspect of the development has been in its relation to the human element of production. Recent improvements helped most in developing efficiency in utilizing personnel effort and in

WEAR AND OBSOLESCENCE

handling material. The result has been that fewer employees do more work; of course this has brought higher wages. While wages today are below the 1924 peak, some knitting operators earn more than ever before.

We have no scientific system for telling exactly when our machines should be replaced, in part or in whole. Of course we are in close touch with the equipment manufacturers, and when these manufacturers have an important improvement or development, they make a point of bringing it to us immediately to consider. We try everything presented to us, and if convinced the new machine will pay for itself in three years we immediately install it.

Utica, N. Y.

Two main points influence our superintendents in presenting requests for new machinery; such requests are made if the machinery in use has become so obsolete due to change of method or style that is valueless, or if the machinery is so worn that the expense of upkeep is too great. With respect to worn machines, we are especially watchful as to quality of production and also quantity.

Sherburne, N. Y.

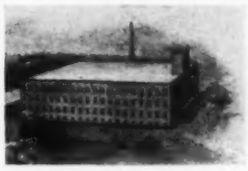
Our policy as regards placing orders with equipment builders is as follows: The suggestion may come from the representative of the production company, who shows us the new equipment, or from our own foremen. The latter talk to the superintendents, who in turn talk to the manager. We almost always have the new machine installed and given a trial. The foreman reports on it to the superintendent, who in turn reports to me. If it is an ordinary item, I approve or disapprove the purchase myself; and if it is something representing a large outlay, I lay it before our general manager with a report that is usually O.K'd.

We prefer to have the machinery actually in the plant and producing satisfactorily before we buy it. We let the burden of proof lie on the machinery man. He usually sees to it that the machine gives satisfaction, as he wants to make the sale. There are some manufacturers we cannot buy from this way; in these cases we get a guarantee as to the satisfactory operation of the machine when installed. We find one way works about as well as the other.

The cost of installation and trial operation is light, as our purchases are mostly sewing machines, and the only work involved is placing them on tables. We assume the cost of this, and also of operating through the trial period.

The technical representatives of the machine company work with our men in seeing that the adjustment of the equipment is correct for the try-out. Our men are well trained in that work; it is difficult to find any new equipment that our ordinary routine would not take care of.

As regards maintenance of equipment, we keep a record of each machine in our machine-inventory book. Our policy is to keep all machines in the plants in good condition. Repairs are made as required. We find it impractical to go to the detail of carrying a repair-expense account for each machine.



Oriskany Falls, N. Y.

Our machine shop is a vital part of our organization. It is very complete and expertly manned. We do much repair work ourselves and we build devices and attachments and even complete machines. The devices and attachments are developed to meet our particular needs. We find this a better way than to go outside the organization in such matters. It is a big advantage to have such a shop, when there is enough work to keep it running and to justify the overhead. We have ten mills and many service departments and the shop is kept steadily at it.

In considering purchases of new machinery, we have to determine whether there is some new type of work it will do or what machine it will take the place of, and do the work better and more economically. Sometimes the old machine turns out so much defective work you cannot afford to use it. In the last few years to meet consumer need, we developed knitting machines to make fine flat fabrics either of rayon or cotton. We built 60 of these knitting frames ourselves.

It is hard to say just when a machine should be scrapped or traded in; today it is possible to replace worn parts so generally that a machine is restored virtually to its original state of efficiency. Certain parts, such as knitting-frame tables and posts, can last forever; so we replace the parts that wear and the machine is quite O.K. again. I have machines which have run 50 years and today are producing good cloth in an efficient way. Brand new machines are nicer to look at, of course, but I don't know that they make any better cloth.

Relations with Competitors

We maintain a friendly spirit with our competitors, generally speaking, on the matter of exchanging ideas about new developments. We welcome them to our plant and we are invited to view theirs. As to actually buying new equipment, we would of course make up our minds without discussing the matter outside.

In purchasing major replacements, we do not place big orders in a lump. Usually we try one unit and then follow the policy of adding a given number of units, to be placed in operation on a monthly basis until finally all are installed. We might consider acquiring 100 machines, but actually we would buy one, two or three at a time until the total is reached. *(Continued on page 52)*

Utica, N. Y.

Textile Men Evince Interest in Latest Developments at

Chemical Exposition

MANY of the newer developments shown at the Thirteenth Exposition of Chemical Industries, held in Grand Central Palace, New York, the week of May 4, proved of particular interest to visiting textile men. Many items of mill equipment, recording and control apparatus, laboratory supplies, industrial chemicals, and reagents, displayed by over 350 exhibitors and having direct application in textile manufacturing and processing, were on view for the first time.

Corrosion-Resisting Materials

An exceptionally large number of exhibitors emphasized the most recent developments in corrosion-resisting materials for plant and laboratory use. Acid- and alkali-proof equipment of stainless steel, high-silicon iron, nickel and its alloys, hard rubber, chemical stoneware, enamelware, chemical lead, phenol-condensation products, and other resistant substances were displayed. One of the most recent innovations in this field was a self-oiling, double-acting acid pump of high-silicon iron, having a capacity of 50 gal. per min. An exhaust fan of the same material, constructed with a solid facing and with all moving parts mounted on rubber was also shown.

A complete line of Y-valves of chrome-nickel-steel, having a low carbon content which adds to the corrosion-resisting property, was featured. One exhibitor displayed a wide range of durable-finish paints and varnishes in which are incorporated phenol-condensation products, and which have a wide application wherever resistance to moisture or corrosion is essential. The same company showed also a variety of products of molded and laminated construction. The growing use of tantalum plating as a means to resist the destructive effect of acids, alkalis, and salts was demonstrated by another concern.

Several companies displayed equipment constructed entirely of, or lined or coated with, hard rubber. New developments shown in the use of Monel metal included seamless tubing and pipe, seamless laboratory beakers, tripod stands, etc. Nickel-clad steel plate, in which the nickel is applied while the steel is red-hot, was exhibited and said to be particularly applicable for large containers for transporting caustic soda, and for other purposes where nickel alone would be too expensive. The use of large quantities of nickel in steam chests for caustic evaporators was featured by one concern. Corrosion-resisting containers, constructed with the aid of atomic-hydrogen electric welding, also were on display.

One exhibit showed the interior of a large tank lined with the aid of a new quick-setting, acid-proof cement. A chemical-stoneware centrifugal acid pump was equipped with a new double-gland, semi-automatic adjustment. A new self-aligning ball mill was equipped with anti-friction bearings and chemical-stoneware barrel. Other chemical-stoneware products included jars for a new line of pebble mills, lubricated valves and faucets, and an electric tumble-mixer. A roll for textile dyeing, bleaching, and finishing operations is made of a new ceramic material having a soft body covered by a permanent heavy glaze capable of withstanding a wide range of temperatures and sudden thermal shock.

Drying Equipment

Textile men were particularly interested in the working demonstration of an improved drying and processing machine combining the festoon and roller principles of conveying and employing a floating roll which prevents buckling and wrinkling and affords uniform and adjustable tension. Other textile dryers illustrated and explained included a continuous chemical conveyor type for cellulose acetate, a loop type for drying impregnated asbestos cloth in range with the impregnating equipment, automatic conveyor-type skein dryer, and an unusually wide automatic drag-type carpet dryer. Another dryer of interest incorporated the mechanical convection method of heat transfer and forced-air circulation.

New developments in extractors included the application of cable links to an underslung machine, affording freer balancing and doing away with six points of lubrication; a new extractor designed primarily for the cleaning of paper stock and operating continuously, possibly applicable to the cleaning of cotton linters; and a centrifugal extractor with the Lewis open-bottom basket.

Mixing Equipment

In mixing equipment was shown an improved explosion-proof motor for agitators. Another manufacturer of this type of equipment displayed a new line of mixers suitable for use in large tanks and with heavy or viscous mixtures, together with two new filters—one for removing rust from water and another, of the asbestos-disk type, which is expected to find extended use in the textile and other industries. Other equipment of a similar nature included an improved type of clarifier or thickener which is being used for the recovery of tin tetrachloride from tin-weighting solutions, purification of industrial supplies, and treatment of waste liquors.

Rayon Equipment

The rayon branch of the textile industry was more favored than any other branch at the Chemical Exposition. New equipment for this field included bobbins covered with hard-rubber baking enamel, bleaching rods covered with a recently developed resistant rubber, rubber-lined steel tanks for glacial acetic acid, precision

gear pumps made with increased accuracy, chemical stoneware, self-lubricating valves, and special paints having a basis of cement capable of resisting hydrogen-sulfide fumes. One exhibitor displayed spinnerets of tantalum, and another company, in conjunction with its exhibit of spinnerets of both base and precious metals, demonstrated the equipment and methods used for measuring and inspecting these devices.

A transparent wrapping material manufactured from cellulose acetate shown by one manufacturer, while somewhat similar in appearance to that derived from viscose, differs considerably in its properties.

Indicating, Recording, and Controlling

New and improved instruments for indicating, recording, and controlling included a temperature regulator and a more efficient valve and a new air-operated automatic controller which has complete command of the controlling medium and is suitable for regulating temperatures, pressures, and flow of steam or gases. There were featured also a telchrome-operated, adjustable time controller; an indicating pyrometer with twelve-point, double-throw switch; and an air-operated time-cycle control which performs four operations in sequence. Other equipment in this category included a power-type pressure transmitter, a new feed-water regulator, and a test-water cooling coil for cooling samples of boiler water for analysis. Of interest to plants making their own gas for industrial purposes was a flame analyzer which permits proper mixing of various gases to secure the correct B.t.u. content.

Two instruments for pH control in the plant were an automatic device which is designed to keep water near the neutral point and an acid recorder which is finding considerable application in neutralizing mercerized yarn and fabrics. The company showing these two devices also displayed a humidity recorder reading directly in the degrees of relative humidity, a new type of CO_2 recorder, and an anticipatory controller designed to hold temperatures within two or three degrees.

Laboratory Equipment

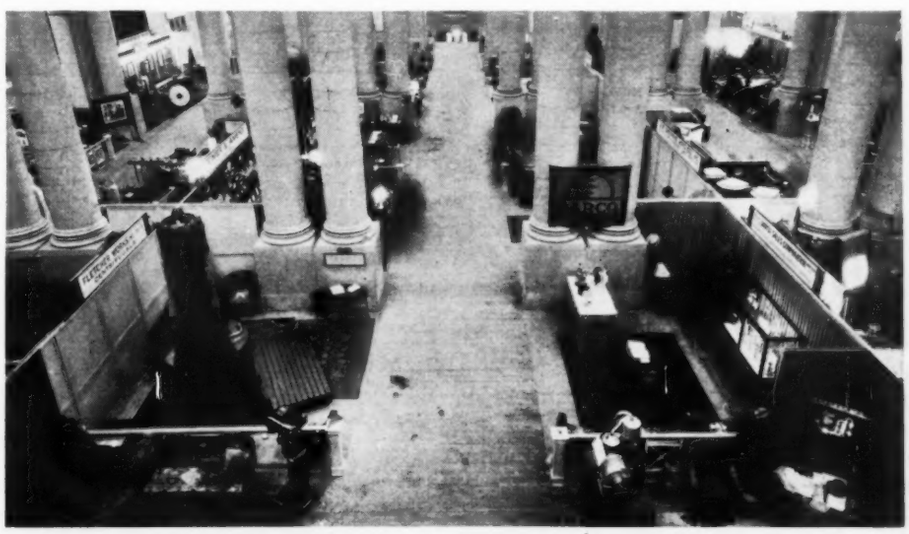
Exhibits of laboratory equipment varied from those showing a complete line of furnishings to those featuring devices intended for specific purposes. Of particular interest to textile chemists were the numerous forms of hydrogen-ion control apparatus, such as the slide comparator and long-range comparator, portable colloid mills, a 3-in. colloid mill, color-analyzing equipment, and instruments for microscopic work. A microscope for shop-inspection use, which is particularly well suited for pointing out minute details of construction and finish which cannot be seen well with the naked eye, and a textile-laboratory microscope proved of particular interest. Two new types of chlorimeters for the determination of free or residual chlorine, a new gravitometer for determining the specific gravity of solids, and rhodium-plated equipment of various types were among other of the most recent developments. A new set of laboratory balances was equipped with an equilibrium device which facilitates adjustment of the zero point and may be operated from outside the glass case. Zero adjustment is also facilitated by a new air-dash pot scale on a torsion balance. A new water still returns the condensed steam as feed water and thus prevents scaling.

Chemical Products

One of the newer chemical products of interest in the textile industry which was shown at the exposition was sodium metasilicate, a white crystalline powder which yields strongly alkaline solutions and is of a high detergent value. Interest was evidenced in a display of cellulose-acetate solutions which are finding application in waterproofing, flameproofing, and other textile processes. Several synthetic resins, together with emulsifying, foam-producing, and defoaming agents, were shown. An interesting exhibit was one in which a wide range of pine-oil and soap mixtures was so arranged as to show the physical properties of various combinations. A line of over 25 gases for laboratory use, including chlorine, hydrogen sulfide, and sulfur dioxide, which have recently been made available in ½-lb. and 1-lb. containers, and an absorption spreader which facilitates the use of these gases were featured by one exhibitor. A producer of sodium chloride showed a recently developed salt dissolver which permits the preparation of clean saturated brine from low-grade rock salt. The dissolver operates on the up-flow principle and is expected to be of particular value in the regeneration of zeolite. An augmented line of rayon and silk tints was shown.

Miscellaneous Equipment

A large amount of improved miscellaneous equipment included improved electric soldering irons; low-pressure, ultra-violet quartz lamps of increased length; welding torches with a wide range of interchangeable tip sizes; colloid mills with one spill-way; totally-inclosed, variable-speed transmission equipment with centralized lubricating system; equipment for purifying the liquor from wool-scouring bowls and returning it to service; improved installation for refrigeration purposes; new stoker drives; redesigned high-pressure steam jets; a steam trap with a protective shield; and many improved valves.



A view of a few of the exhibits at the Exposition of Chemical Industries at Grand Central Palace, May 4 to 9

Screen Printing *Invades New Fields*

Courtesy L. C. Chase & Co.

Screen printed mohair plush from the "Velmo" line using five colors

By E. W. Pierce

◆ *Improved methods of screen printing have made it possible to produce patterns on various constructions of fabrics. Recently developed formulas permit printing of vat dyes, silk, cotton, rayon, and wool. The accompanying article, outlining the most recent developments in the screen-printing process, is abstracted from a paper delivered by Dr. E. W. Pierce, of Ciba Co., Inc., at a meeting of the National Association of Printing Colorists, held in Paterson, N. J., April 25, 1931.*

SCREEN printing is simply an outgrowth of stenciling; the older paper stencils were lacking in durability and had to be cut so that no detached spaces existed, and all large blotches had to be supported by a bridge at frequent intervals. The very nature of the designs that could be used gave stenciling a characteristic appearance which kept it outside the field of true art. Of late, however, there has been noted a considerable activity in the line of screen printing.

The pastes used and the steaming processes employed in this newer method are identical with the usual printing technic, and the boss printer is generally called upon to supervise the operation. The screen for printing is a frame which is covered with silk bolting cloth in which the blank places have been stopped or filled with paint or varnish. The goods to be printed are stretched on a long table and kept in place with flat bank pins; the frame is set in place, and the operator or operators scrape the color paste across the surface by means of a flat wooden doctor, which may be edged with rubber. Some cheap work is done by means of an air brush, which is charged with a quick-drying lacquer, but such work is outside our field.

New Developments

Silk bolting cloth is expensive, and some mills are now trying to produce a substitute from cellulose-acetate yarns. The silk also shrinks strongly and is likely to distort the frame, especially if it is of large size, so that some plants use frames made of metal rather than wooden frames braced with angle iron. The design requires the work of a first-rate artist, no less than the engraving of a copper roll. The paint or varnish used to stop the blank places is a matter of some discussion, there being on the market green and yellow lacquer-like paints sold for this express purpose; but some of the largest screen printers in the country use only transparent spar varnish, it being asserted that if the men are able to see through the screen easily, they can register the frames more correctly.

The table-top is padded and covered with oil-cloth, to take place of the blanket; some printers use a back-gray and others do not, depending on the weight of the goods printed. Some operators employ heated tables for drying the fabric, while other operators simply suspend the goods above the table and depend on air drying. A pair of printers can run down a table with a frame 6x4 ft. and print 60 yd. of goods in 15 min.; two other pairs can start two frames later. In this way the whole piece is printed in three colors in 18 min. Then the frames are washed in a few minutes and put away on their racks.

This method of working will not compete with machine printing where the order calls for an eight-hour run without change of color; but when there is only a small order, the saving is worth considering. All classes of goods, from light silk chiffons to heavy mohair pile fabrics, are handled in this way; and, aside from the limitations of design, the results are excellent. The printer's main concern is with the quality and viscosity of the paste, the other printing conditions being the same as with the machine printing, except with vat dyes, which require a special care.

Use of Bicarbonate

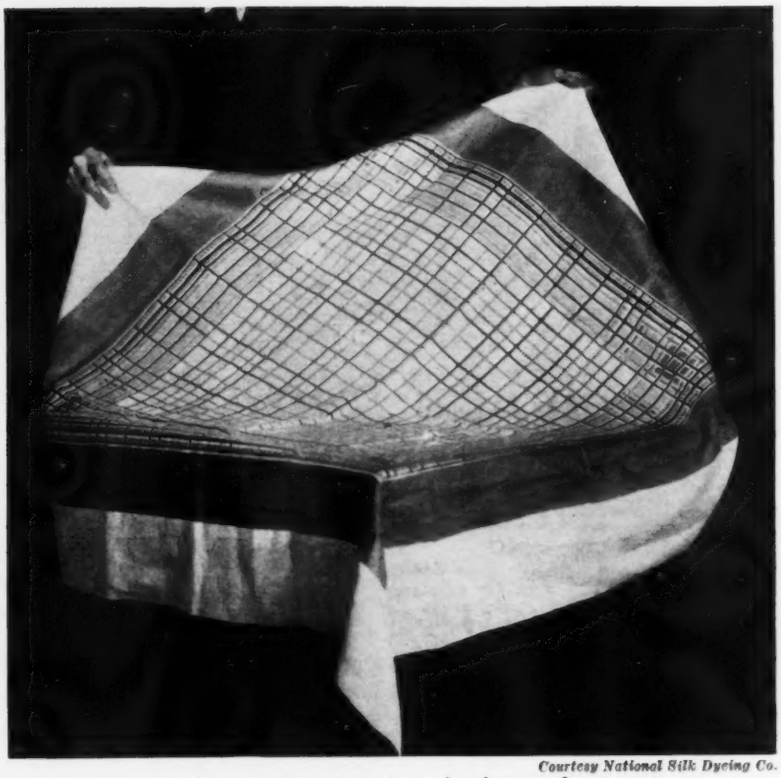
If an Indigoid vat dye requires twice its weight of hydrosulfite NF and four times its weight of carbonate of potash, it will be found that this high degree of alkalinity will soon rot the silk screen; therefore most screen printers are inclined to reduce the quantity of these necessary chemicals, although they find that their prints are lacking in fastness to washing and crocking. A practical formula, which makes use of the bicarbonates in place of the carbonates, and which may be modified to meet particular requirements, is as follows:

6 oz.	Indigoid vat dye, double paste
12 oz.	Glycerin
26 oz.	Water
24 oz.	Bicarbonate of potash (or soda)
12 oz.	Hydrosulfite NF
48 oz.	Tragacanth paste
128 oz.	or 1 gal.

After printing, dry and age as usual, sour with acetic acid and oxidize with perborate and soap near boiling.

Courtesy National Silk Dyeing Co.

Black and white floral pattern on crepe de chine for women's dress wear



Courtesy National Silk Dyeing Co.

Linen table cloth done in three colors

Courtesy National Silk Dyeing Co.

Effective decorative panel in four colors pattern measuring 35"x42"

Courtesy National Silk Dyeing Co.

Silk scarf using fine lines and discharge work

This formula works well on silk, cotton, rayon, or linen; but wool is tendered badly, as with all attempts to print vat dyes on wool.

Wool may be printed, however, by the addition of ammonium chloride to a modification of the above formula; for example, the following recipe may be used: 8 oz. Indigoid vat dye, double paste, 12 oz. Glycerin, 38 oz. Water, 8 oz. Bicarbonate of potash, 6 oz. Ammonium chloride, 8 oz. Hydrosulfite NF, 48 oz. Tragacanth paste, a total of 128 oz. After printing, drying is not advisable, as it lessens the fixation of the color; the aging should be at least eight minutes, after which air oxidation of several hours is beneficial, then sour with acetic acid and oxidize com- *(Continued on page 34)*

Extra Warps in Narrow Fabrics

for Weight, Figure, Strength, and Stitching

By Edwin J. Gibbons

ONE or more extra warps may be incorporated in a narrow fabric for weight, for figure, for attaining a required thickness or strength, or for binding together the face and back of a fabric. Sometimes a single extra warp is designed to serve two purposes. Instances of this kind are when a stuffer warp (or gut warp, as it is often called) is used also for figure; or when a back warp is used for both weight and figure.

According to the purpose for which it is used, the extra warp is termed back warp, figure warp, stuffer (or gut) warp, binder warp, etc. The original warp is sometimes termed the face warp and sometimes the ground warp. The number of extra warps that may be incorporated in a single tape is limited only by the capacity of the warp rack at the back of the loom, as each different warp is usually required to be wound on a separate loom beam.

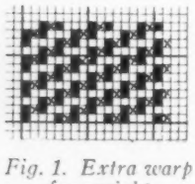


Fig. 1. Extra warp for weight

Fig. 2. Cross section of weave

Extra Warp for Weight

An extra warp for weighting a fabric is usually stitched to the back of the material so treated, and is termed a back warp even though it may also be used for figuring. The original warp is distinguished by the term face warp. The face warp interlaces with the filling to form the face of the fabric, and the back warp interlaces with the filling to form the back of the fabric. The proportion of face ends to back ends may be one to one, two to one, three to one, etc., or the reverse. A back warp employed expressly for weight, however, will seldom exceed the number of ends in the face warp.

There are three different methods by which an extra warp may be stitched to the back of a fabric: First, between two raisers of the face weave; second, between a raiser and a sinker of the face weave; and third, between two sinkers of the face weave. With ordinary textures the first method should produce an invisible stitch; by the second method the stitch cannot be made wholly invisible, but sometimes must suffice; by the third method the stitch is made wholly visible and can in no way be made invisible. Filling-effect weaves are usually employed for stitching the back warp (appearing as a warp-effect weave when the material is reversed), and are often the reverse effect of the weave employed for the face.

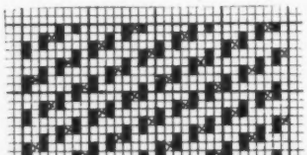


Fig. 3. Two-up-two-down twill with extra warp for weight

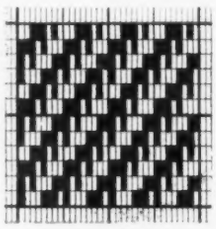


Fig. 4. Ground weave for inexpensive name tapes

An extra warp employed for weighting a fabric should not at any point appear on the face of the material. To effect this, the back warp must be stitched to the fabric by an invisible stitch; and as an invisible stitch can only be effected by raising an end of the back warp over the filling between two raisers of the face weave, it follows that any order of interlacing that does not present filling-wise two adjoining raisers may not properly be employed for the face weave. Being hidden, the extra warp may consist of a coarser or inferior grade of yarn, or even a different material.

Consideration must be given the weighting of the different warps at the loom. If the back warp is weighted too heavily (in proportion to the yarn size and volume), the woven material may not lie straight, but will show a tendency to curl backwards; if the face warp is weighted excessively, the fabric will show a tendency to curl or roll up forwards. If the extra warp is set to one side of the center of the fabric, and is excessively weighted, the material is very apt to curl towards the side in which the major part of the extra warp is located.

In laying out on design paper weaves employing an extra warp for weight, the procedure is as follows:

First determine the location of the back ends and indicate these on the point paper for their full length with light yellow paint (lemon yellow is usually employed). Then place the face weave on the face ends in red paint, and the back weave (stitching) on the back ends in black paint. After one has become accustomed

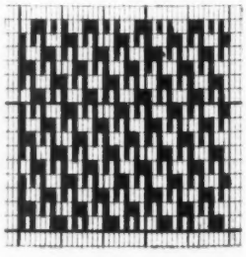


Fig. 5. Extra warp for both weight and figure

to designing patterns employing an extra warp for either weight or figure, the yellow paint will probably be used only in highly complicated designs. When the yellow paint is not used, it is customary with many designers to indicate the location of the extra ends by one or two raisers of green or black paint immediately below the first pick in the design —see Fig. 12.

The number of picks in one repeat of the design will be equal to the least common multiple of the two weaves employed—i.e., face weave and stitching. The number of ends in one repeat of the weave will depend upon the proportion of face ends to back ends and the weaves used. With weaves that ordinarily repeat on the same number of ends as picks, and have an arrangement of one face end and one back end, the number of ends in one repeat of the design will be twice the number of picks in one repeat. Where the arrangement is two of face to one of back, the number of ends in one repeat will be three times the number of picks in one repeat, etc.

Fig. 6. Labels, reproduced with permission of concerns for which they were made

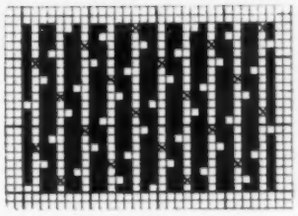


Fig. 7. Proportion of face ends to back ends two to one

Fig. 8. Fabric made according to Fig. 7

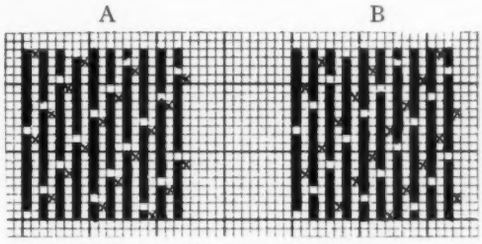


Fig. 9. Two stitching arrangements

Fig. 1 shows a design for a narrow fabric employing an extra warp for weight, and in which the proportion of face ends to back ends is one to one. The face weave is the two-up-one-down regular twill. The back is stitched in one-up-two-down regular-twill order, each end being raised over the filling between two raisers of the face weave, thereby effecting a perfect invisible stitch. As the face ends are here lowered for one pick between two sinkers of the back weave (making a perfect invisible stitch also on the back) and the interlacing on the face and back are opposite effects of the same weave, both sides of a fabric so woven will appear identical. The raisers of the back warp are represented by crosses. The design is four repeats high and three repeats wide.

Fig. 2 depicts a cross-section of the weave shown in Fig. 1, and illustrates how the raisers of the back weave are hidden between the two adjoining raisers of the face weave. The round dots represent the filling. The face ends are represented at *F*, and the back ends at *B*.

Fig. 3 shows a design employing the regular two-up-two-down twill for the face weave; the back warp is stitched in eight-harness filling-effect satin order; and the proportion of face ends to back ends is one to one. The design is two repeats each way.

Fig. 4 illustrates an interlacing used occasionally as a ground weave for inexpensive name tapes. The face weave is the three-up-one-down regular twill; the back warp is stitched in one-up-three-down regular-twill order; the proportion of face ends to back ends is one to one. The figuring is accomplished by raising the back warp to the face and at the same time lowering the face warp to the back.

Fig. 5 shows another order of interlacing often used in narrow fabrics employing an extra warp for both weight and figure. It is used to a considerable extent in labels and hangers for coats, sweaters, etc., and labels for shoes. The face weave is the five-harness warp-effect satin; the back is stitched in five-harness filling-effect satin order; the proportion of face ends to back ends is one to one. The design is three repeats high and four repeats wide. Arranged one face end, one back end, this weave repeats on five picks and ten ends.

Fig. 6 illustrates two labels, reproduced with permission of the concerns for which they were made, in which the interlacing of the ground is as shown in Fig. 5.

Fig. 7 shows a design in which the proportion of face ends to back ends is two to one. The face ends interlace in ten-harness warp-effect satin order; the back is stitched in ten-harness filling-effect satin order using six as a counter. The use of any other number as a counter, excepting four, would not afford the opportunity for effecting a perfect stitch.

Fig. 8 illustrates a narrow fabric interlaced according to the weave shown in Fig. 7.

Although in the vast majority of cases it makes little or no difference to either the appearance or weaving qualities of a fabric as to just how the back is stitched, so long as the raisers of the back weave are located between two raisers of the face weave, there is a point in texture where a considerable difference obtains. Fig. 9, *A* and *B*, shows the ten-harness satin weave face and back; arrangement, one face end, one back end. At *A* the stitches of the back warp are so arranged that each back end, after being raised to form the stitch, is lowered to the back *together* with one of the face ends between which it was raised. This means that the filling must be beaten in over *two adjoining* ends. In certain high textures such a treatment cannot successively be used. Stitching arranged in the manner shown at *B* affords a little more freedom to the filling, and will sometimes make possible the use of a texture that would be impossible with *A*. *(to be continued)*

Shantungs *Which Wear and Wash*

By Lillian Edgerton
Research Counselor, New York

THE shantung season is well on its way. The ready-to-wear racks and piece-goods counters are displaying their assortments with very apparent confidence in a successful season.

There are colors and qualities to suit any personality, purse, or occasion. Plain colors, prints, and threaded designs. Although the volume of these fabrics is made with the untwisted filling threads, there is a very important smaller group of creped-filling shantungs. These are particularly adapted to the dressier type of costume, and in passing, is it too early to predict that this type will receive the lion's share of sales next spring?

Because the rough-surfaced fabrics are so appropriate for the American active and spectator sports seasons, as well as for children's clothes, they may be classed with the staple fabrics, depending for their individual interest upon the designs and the methods by which the designs are applied.

The stock from which these fabrics are constructed and the fact that their popular seasons are spring and summer make frequent cleansing necessary. The volume garments are certainly in the medium and lower price ranges, making exorbitant dry-cleaning bills uneconomical. Therefore soap and water are the cleansing agents.

This fact should influence the quality of construction of the fabrics. Fabrics which are to be laundered frequently must of necessity be so constructed, dyed, and finished as to be satisfactory for at least a season's wear.

The construction of two outstanding examples of the plain and creped silk shantungs are given. Of numerous qualities tested during the season, these two are representative of shantungs which will wear and wash, and will at the same time fulfill all style demands for rough surface, full handle, and draping qualities. The construction is sufficiently close to prevent excess slipping at the seams. The construction of a rayon shantung is also given.

There is a decided undercurrent of "trading-up" in quality. This will gain momentum during the fall and winter seasons. By the spring of next year, the tendency points to a decided reversal of present and immediately past buying activities. With this tendency on the upgrade, the manufacturer who produces merchandise which will fulfill the style and quality demands will have the advantage—and the business.

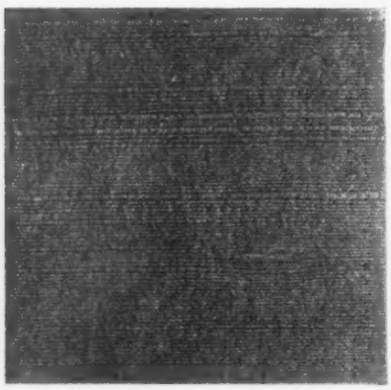


Fig. 1. Shantung with untwisted filling

Warp: 28/30-denier Japan silk—raw.
Reed: 50/23, or 300 ends per inch.
Set in reed: 41½ in. to finish 39 in.
Weave: plain—4-shaft harness.

Disposition warp layout:

12 dents of 3/3 =	36/3 Edge
2050 dents of 2/3 =	4100/3 Ground
12 dents of 3/3 =	36/3 Edge
2074 dents	4172/3 or 12,516 ends in warp

Filling: 450-denier raw Douppionni silk.
Picks per inch in loom: 44 picks.
Dyed: pure dye.
All-silk shantung.

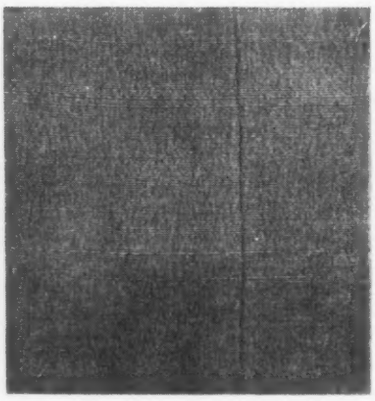


Fig. 2. Shantung with crepe filling

Warp: 20/22-denier Japan silk—raw.
Reed: 56/3/2, or 336 ends per inch.
Set in reed: 43 in. to finish 39 in.
Weave; plain—6-shaft harness.

Disposition warp layout:

14 dents of 4/2 =	56/2 Edge.
2380 dents of 3/2 =	7140/2 Ground.
14 dents of 4/2 =	56/2 Edge.
2408 dents	7252/2, or 14504 ends in warp

Filling: 80-denier, 3-thread Douppionni crepe 40 turns twist per inch
Picks per inch in loom: 80 picks
2 right twist and 2 left twist (alternating)
Dyed: pure dye
All-silk crepe shantung

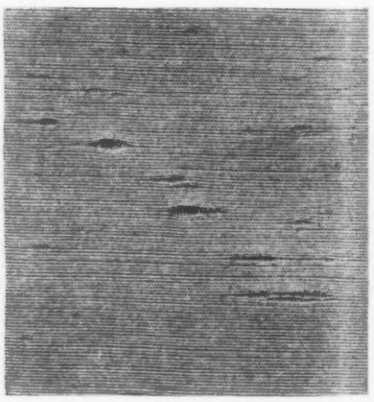


Fig. 3. All rayon shantung

Warp: 100-denier 40-filament delustered rayon, first quality.
Reed: 55/2/1.
Set in reed: 42½ in.
Weave: plain.
Picks: 52 of 20/1 spun rayon, shantung nub.
Finished width: 39 in.

Disposition of Warp:

14 dents of 2/2 =	56/1 Edge
2310 dents of 2/1 =	4620/1 Ground
14 dents of 2/2 =	56/1 Edge
2338 dents	4732/1 Ends

Fabrics analyzed by Carl C. Wattmann, Jr.

Distinctive American Art *Takes Leadership in Textile Field*

AN EXHIBITION by the American Union of Decorative Artists and Craftsmen, which opened at the Brooklyn Museum, Eastern Parkway, Brooklyn, N. Y., on May 1, features textile designs and fabrics. The exhibition will be open to the public for two months, closing on July 1.

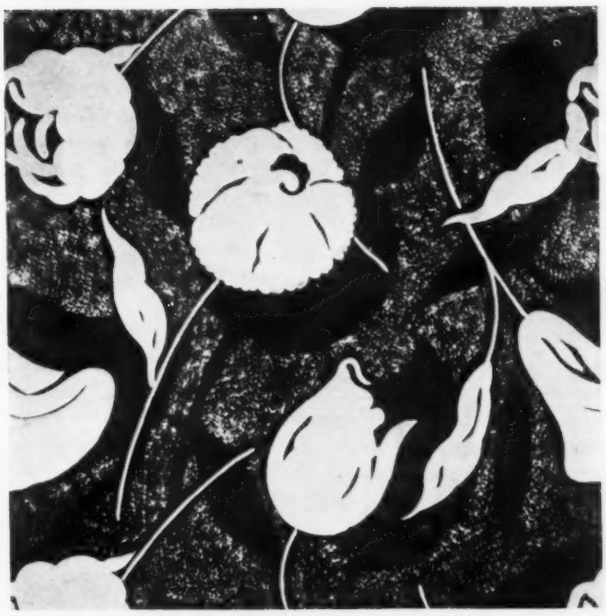
An important part of the exhibition is devoted to a series of rooms done in the modern manner in which the upholsteries, draperies, and carpets display the latest products of a number of leading textile firms. Among those who have contributed fabrics to the exhibition are Collins & Aikman, the Du Pont Rayon Co., F. Schumacher Co., Robert McBratney & Co., and others. Robert Schey showed a group of eight distinctive textile designs, three of which are illustrated at the right.

Robert Schey's broad experience in connection with his many years of work in the field of textile design lends particular authority to his exhibit. He has a large studio of workers under his direction and a library of fabric samples which offers a complete record of what has been manufactured both here and abroad for more than 100 years. The library includes a most extensive collection of books on related subjects.

The exhibit by the A.U.D.A.C. also includes modern commercial photography, wood cuts and artistic packaging for various articles of commerce.

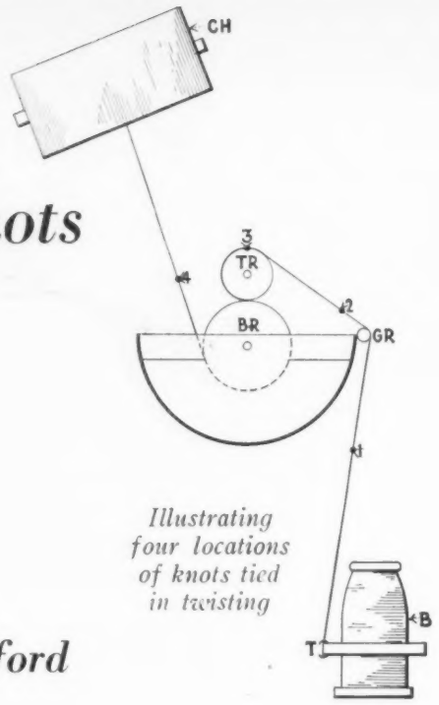
Observers at the museum believe that a distinctive American art as applied to textiles has been evolved. They believe that this country is no longer dependent upon foreign centers for style inspiration, although the fetish of imported goods still carries weight with a certain class of consumers and consequently is still played up by retailers. Even though retail stores go through the motions of catering to this weakness, it is usually with goods which are modified to meet American taste.

The tempo of American life, together with the real needs of the people, has already developed distinctive contributions to world art in music and architecture, and it is only reasonable that fuller recognition be given to the distinctive Americanism of the most successful textile patterns of the present day. The silk industry has perhaps traded too long on a Paris reputation, while the cotton industry built its own foundation for American styles when the widespread vogue for cotton dresses got its start. Its originality has contributed to its success.



Group of Robert Schey's designs; upper two for dress fabrics, bottom, for pajama use.

Correct Placing of Knots Important in Twisting



Illustrating four locations of knots tied in twisting

By L. L. Kingsford

THE high quality so necessary in thread for sewing or embroidery work may be jeopardized by improper placing of the knots tied during the twisting operation. To insure that the twist in the thread on each side of the knot is as near the regular twist as possible, it is necessary that the knot be placed at the right distance from the top roll, labeled *TR* in the accompanying sketch. The reason for this precaution is that during the normal operation of twisting the twist is inserted by the traveler *T* and runs up to a point near the top of the top roll *TR*. It is requisite that the twisting length from the top roll to the bobbin be altered as little as possible in order that any change in the twist will be avoided.

Slack and Tight Twists

Let it be asumed that the cheese *CH* has run out, that a fresh cheese has been put in the creel, and that the untwisted end from the cheese has been tied to the twisted end of the partly filled bobbin *B*—also that the knot is started, say, at 1 between the guide-rod *GR* and the bobbin *B*. In this case the length of thread from 1 to the bobbin *B* has had the normal twist, but the stretch between 1 and the top roll *TR* has, at the moment of starting the spindle after tying the knot, no twist. Naturally this stretch will have received, by the time it is wound on the bobbin, only a part of the regular number of turns. The result is slack twist, a fault that seriously detracts from the appearance and use of the thread.

On the other hand, if the knot is at the position indictated by 4, that portion of the thread between the knot and the top rolls, having already been twisted the full number of times, will receive as many turns again. This, obviously, will mean a stretch of excessively twisted thread—called "hard twist." This fault, too, is objectionable in the finished product, as it changes the appearance of the thread and is apt to cause snarls and kinks.

A little experimentation will soon disclose the best location for the knots. During this research, knots, after being tied should be placed at various points ranging from just in front to just behind the rollers. After starting the spindle, the thread with the knot should be allowed to run on the bobbin for a moment in the regular fashion. Then it should be removed carefully from the bobbin and put in a twist-testing machine, in which the twist on each side of the knot can be ascertained. Having then determined the location which will assure a twist at the knot approaching the normal, this position should be made the standard one.

Obviously, if a concern has a wide range of yarns and threads whose counts go to great extremes, fine and coarse, one position may not be applicable to the entire range twisted. For example, a very coarse product like top or store string, wrapping twine, and so on, may require the knot in front of the top roll *TR*—that is, somewhere between 2 and 3—; whereas a fine machine or sewing thread will probably require to have the knot along the back toward 4.

Once the proper distance has been established, steps should be taken to instruct the workers to put the knot at just that place for the particular range of counts for which it is suitable. Section hands and foreladies should then insist on the ruling being carried out. Unless this precaution is consistently followed up, workers will be found who twirl the cheese *CH* so fast when they have tied a knot that the knot will finally get to the cheese itself, with that the result that a length of hard twisted thread will be made. Again, other workers may not have the knot located at 1 before they start the spindle, and this will cause, as previously explained, slack twist.

Not only must the knot be placed at the standard point, but several other measures must be observed before the operation of tying the knot can be considered successful. For instance, when a cheese is about to run out, the operative should be ready to place a full cheese in the creel and tie the two ends together without disturbing the thread in its course through the rollers. If the knot is tied properly, it should manage to work its way through with no trouble, and hence to the bobbin without any change from normal twist.

Other Measures Necessary

When, however, the end of the emptying cheese runs to the bobbin before being observed or when the end ruptures during running, it is necessary for the operator to lift the bobbin from the spindle and hold it in her hand while piecing the ends from cheese and bobbin together. A careless or thoughtless worker may piece the end without lifting the top roll *TR*, so that, by the time the bobbin *B* has been placed on the spindle and started, a considerable stretch of untwisted thread has passed through the rolls. This is held at arm's length by the worker until it is taken up by the wind of the bobbin, and the result is a long stretch of slack-twisted thread. Again, the worker may lift the top roll, which is the correct procedure in these cases, but may not put it back until a considerable length of thread has gone *(Continued on page 58)*

Nine-Meter Sizings

as a Measurement of Evenness

By Warren P. Seem
Julius Kayser & Co.

(Concluded from May 2 issue)

A STUDY was made to determine the probable error in repeated tests on the same 20 skeins when using 50, 100, 200, 300, and 400 9-meter sizing skeins. The regular method used in winding the sizing in this study consists of winding the seriplane boards in the regular way and then cutting off five 9-meter skeins from each panel, leaving 91 meters of thread between each skein.

The theory embraced in this method of sampling the 9-meter skeins is that 10 meters squared equals 100 and that by sampling only 200 on the basis of one out of every ten the result is less subject to variation and more liable to be influenced by the rule of probabilities than if the sizings were instead made from consecutive 9-meter lengths.

Tables IV and VII represent the percentage of evenness of all five 9-meter sections on eight boards, or 4000 skeins all told. The results are given in 50-skein sections, Nos. 1 to 10 on each board, and in board averages. The results of each section are scored in 50, 100, 200, 300, and 400 skeins.

Table IV represents a 67.44% silk varying greatly in evenness. The deviation from the average size, or the error found when using a different number of skeins, is as follows:

On 50 skeins deviating above	6.30 to 10.41%, average 7.91%
On 50 skeins deviating below	8.18 to 23.18%, average 14.48%
On 100 skeins deviating above	3.03 to 7.12%, average 5.26%
On 100 skeins deviating below	1.17 to 19.11%, average 5.98%
On 200 skeins deviating above	0 to 4.70%, average 2.51%
On 200 skeins deviating below	0 to 11.34%, average 2.95%
On 300 skeins deviating above	0 to 1.37%, average 0.44%
On 300 skeins deviating below	0 to 6.29%, average 1.51%
On 400 skeins deviating above	0 to 1.79%, average 0.61%
On 400 skeins deviating below	0 to 4.68%, average 0.89%

Table VII represents a 74.45% silk. The deviation from the average size of the 4000 skeins, or the error found when using a different number of skeins, is as follows:

On 50 skeins deviating above	5.33 to 10.10%, average 6.87%
On 50 skeins deviating below	0.78 to 29.07%, average 8.53%
On 100 skeins deviating above	0 to 6.33%, average 2.85%
On 100 skeins deviating below	0.52 to 6.25%, average 2.95%
On 200 skeins deviating above	0 to 4.72%, average 0.93%
On 200 skeins deviating below	0 to 3.07%, average 0.93%
On 300 skeins deviating above	0 to 1.95%, average 0.31%
On 300 skeins deviating below	0 to 3.08%, average 0.97%
On 400 skeins deviating above	0 to 2.11%, average 0.63%
On 400 skeins deviating below	0 to 1.68%, average 0.63%

The deduction from the deviations is that, with an evenness measurement as fine as the 9-meter used, a rational tolerance is necessary. For study we shall fix this at 2%.

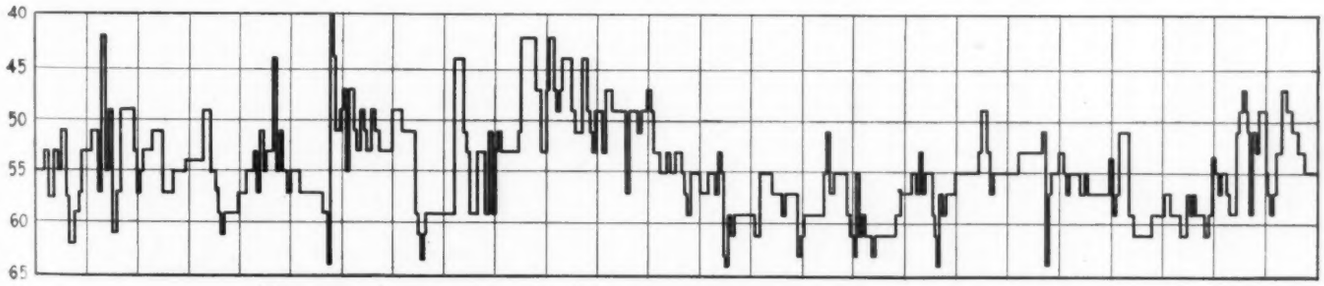


Diagram A, Board 4. Deviation in diameter from average size of lot.

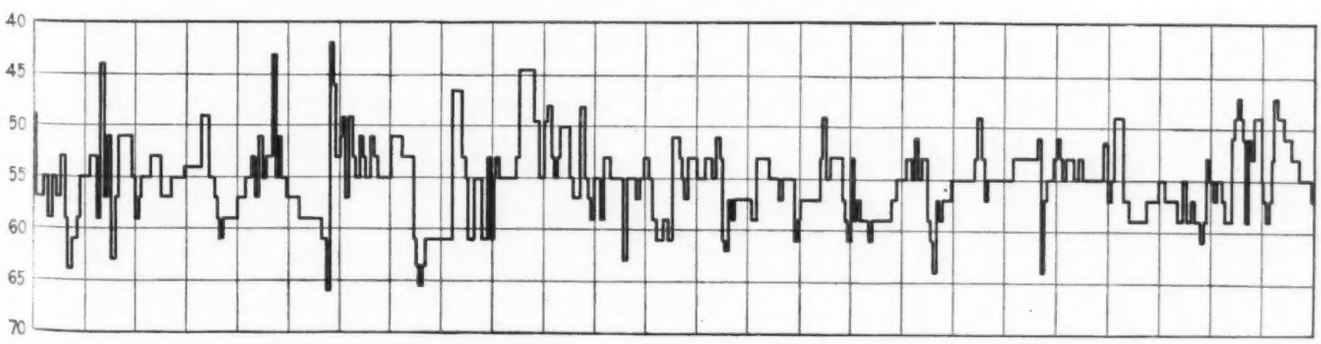


Diagram B, Board 4. Deviation in diameter from average size of panel.

On this basis the number of five 9-meter sections on the same silk exceeding the tolerance is as follows:

Evenness	Number of skeins	Number of sections exceeding 2%
67.48%	200	65%
	300	20%
	400	20%
74.45%	200	45%
	300	20%
	400	20%

A study of the different panels and sections indicates that, if the skeins were properly assorted in the filatures, 200 skeins would always come within the tolerance.

To conform to the Japanese method of sampling—viz., 50 skeins on a 10-bale lot—to learn the evening-up factor with a larger number of skeins, and to reduce the probable error, studies are now under way on 250 sizings reeled from 25 skeins, or 500 sizings reeled from 50 skeins.

Table V, board 1, shows a range in panels when calculated on the average size of lot, from 24 to 86.5% and when calculated on the average size of panel, from 24 to 91.2%.

Board 4 shows a range when based on the average size of lot, from 15.4 to 85.5%, and when calculated on actual size of panel, from 38.2 to 87.2%.

On pages 24 and 25 of the Raw Silk Classification Committee report, June 12, 1929, a rule is given to penalize panels deviating from the average size. Panel 16 is exempt from that penalty, yet it actually deviates from the average size 38.8%. Panel 65 is also exempt from the penalty, and is 20.9% low.

Board 4, panels 31 to 40, are calculated on their rela-

TABLE IV. Percentages of evenness of each of five 9-meter sections in 50, 100, 200, 300, and 400 skeins. Test No. 8896.

Board No.	50-Skein Sections 1	2	3	4	5	6	7	8	9	10	Board Avg.
1	50.40	44.30	45.20	54.30	63.10	64.50	59.80	66.20	72.60	69.60	59.00
2	74.19	52.44	63.57	70.69	69.53	68.66	69.86	72.37	68.55	69.82	67.96
3	71.56	65.82	67.05	72.18	77.82	71.31	73.24	72.62	66.66	69.56	70.78
4	59.20	62.00	62.10	68.50	55.00	61.00	53.80	59.30	71.20	69.90	62.20
5	77.31	68.51	62.95	61.78	73.20	73.09	70.00	73.53	70.76	73.38	70.45
6	64.29	74.07	71.93	70.87	74.37	74.51	75.20	67.49	52.19	56.29	68.12
7	77.89	70.00	72.00	75.42	69.71	59.20	62.36	64.26	70.87	71.49	69.32
8	65.64	65.31	74.55	73.78	71.46	71.46	73.78	75.13	75.53	73.78	72.04
Average	67.56	62.80	64.91	68.44	69.27	67.97	67.25	68.86	68.54	69.23	67.48
50-skein dev.											
Dev. A	10.41	6.59	7.07	7.94	10.34	7.03	7.72	7.65	8.05	6.30	4.56
Dev. B	17.08	23.18	22.28	13.18	12.48	8.28	13.68	8.18	15.29	11.19	8.48
100 skeins											
1	62.29	48.37	54.38	62.49	66.31	66.58	64.83	69.28	70.57	69.71	63.48
2	65.38	63.91	64.57	70.34	66.41	66.15	63.52	65.96	68.93	69.73	66.49
3	70.80	71.29	67.44	66.32	73.78	73.80	72.60	70.51	61.47	64.83	69.28
4	71.76	67.65	73.27	74.60	70.58	65.33	68.07	69.69	73.20	72.63	70.68
Dev. A	4.28	3.81	5.79	7.12	6.30	6.32	5.12	3.03	5.72	5.15	3.20
Dev. B	5.19	19.11	13.10	4.99	1.17	2.15	3.96	1.52	6.01	2.65	4.00
200 skeins	63.84	56.14	59.48	66.42	66.36	66.37	64.17	67.62	69.75	69.72	64.98
Dev. A	....	....	....	....	....	....	....	14	2.27	2.24	....
Dev. B	3.64	11.34	8.00	1.06	1.12	1.11	3.31	....	....	....	2.50
200 skeins	71.28	69.47	70.36	70.46	72.18	69.56	70.33	70.10	67.34	68.73	69.98
Dev. A	3.80	1.99	2.88	2.98	4.70	2.08	2.85	2.62	....	1.25	2.50
Dev. B	....	....	....	....	....	....	....	....	.14	....	....
300 skeins	66.16	61.19	62.12	66.38	68.83	68.85	66.98	68.58	66.98	68.09	66.43
Dev. A	....	....	....	....	1.35	1.37	....	1.10	....	.61	....
Dev. B	1.32	6.29	5.36	1.10	....	....	.50	....	.50	....	1.05
400 skeins	67.56	62.80	64.91	68.44	69.27	67.97	67.25	68.86	68.54	69.23	67.48
Dev. A	.08	....	....	.96	1.79	.49	....	....	1.06	1.75	....
Dev. B	....	4.68	2.57	....	....	....	.23	1.38	....	....	....

TABLE V. Percentage of each panel based on 14 denier, the average size of test. The average size of each panel and a number of extremes calculated on actual size of panel. Test No. 8896.

Board No.	Panel No.	% of Panels Based on 14 Den.	% of Panels Based on Actual Size	Avg. Size per Panel	Board No.	Panel No.	% of Panels Based on 14 Den.	% of Panels Based on Actual Size	Avg. Size per Panel
	1	66.7	91.2	15.82		41	66.7		15.7
	2	60.5	65.5	13.10		42	81.7		14.4
	3	24.0	24.0	13.66		43	82.7		14.58
	4	36.1	72.2	11.74		44	68.0		14.80
1..	5	72.0	87.5	12.26	5..	45	41.0	55.7	12.52
	6	60.7	60.7	13.96		46	85.6		14.06
	7	73.0	73.0	14.02		47	78.7		13.94
	8	86.5	86.5	13.58		48	62.8		14.46
	9	42.8	42.8	14.02		49	65.0		15.38
	10	67.6	67.6	14.52		50	72.3		14.96
	11	72.7		14.6		51	87.7		14.74
	12	68.6		13.38		52	72.2		13.54
	13	77.6		13.72		53	91.1		14.02
	14	62.2		14.20		54	53.4		13.70
2..	15	59.8		13.66	6..	55	50.6		12.34
	16	40.5	79.3	15.76		56	76.9		13.02
	17	56.0		14.68		57	32.2	62.9	16.04
	18	79.4		14.52		58	83.6		12.98
	19	85.4		14.82		59	56.8		15.82
	20	77.0		13.78		60	77.9		13.28
	21	50.7		13.00		61	77.7		13.52
	22	84.8		14.74		62	56.8		13.26
	23	75.7		14.34		63	59.4		14.94
	24	72.1		14.46		64	77.3		13.36
3..	25	58.8	77.0	12.44	7..	65	58.7	79.6	12.36
	26	70.0		14.72		66	81.8		13.04
	27	57.8		13.10		67	79.8		13.74
	28	67.0		14.68		68	56.5		13.54
	29	84.0		14.76		69	66.7		15.12
	30	87.0		14.58		70	79.2		15.22
	31	61.4	67.5	13.02		71	83.93		14.62
	32	82.0	82.0	13.94		72	67.6		12.86
	33	56.4	66.7	12.88		73	59.9	69.6	15.12
	34	29.1	38.2	12.82		74	77.7		13.14
4..	35	15.4	73.3	11.16	8..	75	65.0		14.94
	36	78.2	87.2	15.14		76	81.6		13.70
	37	68.2	87.0	15.58		77	73.5		13.56
	38	85.5	85.5	14.06		78	57.6		15.10
	39	74.6	85.0	15.18		79	77.8		13.28
	40	71.4	71.6	13.62		80	76.7		14.02

TABLE VI. Test No. 8896. Summary of Panels Based on Average Size. Taken from Table V.

Panel %	No.	Product % × No.	Panel %	No.	Product % × No.
15	1	15	69	1	69
24	1	24	70	1	70
29	1	29	71	1	71
32	1	32	72	4	288
36	1	36	73	2	146
41	2	82	74	1	74
43	1	43	75	1	75
51	2	102	76	1	76
53	1	53	77	4	308
56	2	112	78	6	468
57	3	171	79	3	237
58	2	116	80	1	80
59	3	177	82	4	328
60	2	120	83	1	83
61	3	183	84	3	252
62	1	62	85	2	170
63	1	63	86	2	172
65	2	130	87	2	174
67	4	268	88	1	88
68	4	272	91	1	91
			Total	80	5410

General average, 80 panels, 67.6%.
Average, 20 low panels, 46.6%.

TABLE VII. Percentages of evenness of each of five 9-meter sections in 50, 100, 200, 300, and 400 skeins. Test No. 8884.

Board No.	50-Skein Sections 1	2	3	4	5	6	7	8	9	10	Board Avg.
1	73.20	74.33	78.33	68.87	74.98	78.47	79.20	70.25	68.62	75.38	74.16
2	71.60	69.27	66.95	69.45	76.73	73.35	76.40	75.09	75.96	74.95	72.98
3	76.44	73.96	74.11	77.75	75.71	77.46	75.56	78.04	70.44	71.89	75.13
4	65.38	72.66	72.95	72.95	71.27	76.44	73.67	62.15	73.96	64.51	70.59
5	69.78	80.47	79.89	84.40	80.07	72.91	79.78	76.73	77.27	84.55	78.59
6	72.80	66.80	68.15	73.83	70.44	72.33	73.82	66.95	70.25	72.80	70.81
7	70.58	69.09	74.80	74.07	69.86	80.22	75.71	74.65	73.89	77.86	74.07
8	82.36	76.98	72.18	81.82	78.04	81.35	78.15	80.04	80.33	81.49	79.27
Average	72.77	72.94	73.42	75.39	74.64	76.56	76.53	72.99	73.84	75.43	74.45
50-skein dev.											
Dev. A.	7.91	6.02	5.44	9.95	5.62	6.90	5.33	5.59	5.88	10.10	4.82
Dev. B.	29.07	7.65	7.50	5.58	4.59	2.12	0.78	12.30	5.83	9.94	3.86
100 skeins											
1	72.40	71.80	72.64	69.16	75.85	75.91	77.80	72.67	72.29	75.16	73.57
2	70.91	73.31	73.53	75.35	73.49	76.95	74.61	70.09	72.20	68.20	72.86
3	71.29	73.63	74.02	79.11	75.25	72.62	76.80	71.84	73.76	78.67	74.70
4	76.47	73.03	73.49	77.94	73.95	80.78	76.93	77.34	77.11	79.67	76.67
Dev. A.	2.02	....	....	4.66	1.40	6.33	3.35	2.89	2.66	5.22	2.22
Dev. B.	3.54	2.65	1.81	5.29	.96	1.83	.52	4.36	2.25	6.25	1.59
200 skeins	71.65	72.55	73.09	72.25	74.67	76.43	76.21	71.38	72.26	71.68	73.21
Dev. A.	....	....	....	....	.22	1.98	1.76	....	....	....	....
Dev. B.	2.80	1.90	1.36	2.20	....	....	....	3.07	2.19	2.77	1.24
200 skeins	73.88	73.34	73.75	78.53	74.60	76.70	76.86	74.59	75.43	79.17	75.68
Dev. A.	....	....	....	4.08	.15	2.25	2.41	.14	.98	4.72	1.23
Dev. B.	.57	1.11	.73	....	....	....	....	....	....	....	....
300 skeins	71.53	73.91	73.39	74.54	74.86	75.16	76.40	71.37	72.75	74.01	73.71
Dev. A.	....	....	....	.09	.41	.71	1.95	....	....	....	....
Dev. B.	2.92	.54	1.06	....	....	....	....	3.08	1.70	.44	.74
400 skeins	72.77	72.94	73.42	75.39	74.64	76.56	76.53	72.99	73.84	75.43	74.45
Dev. A.	....	....	....	.94	.19	2.11	2.08	....	....	.98	....
Dev. B.	1.68	1.51	1.03	....	....	....	....	1.46	.61	....	....

penalize the panels deviating from the average size and shows that a greater penalty is necessary to evaluate properly the evenness of such panels.

In this connection, I desire to draw the reader's attention to the merits of a board standard as compared with the panel standards for matching evenness, which are as follows:

First, as the board has ten panels, it can be made to illustrate the evenness of each grade. In building standard panels, many variables are found which are one source of confusion in evaluation.

Second, the deviation from the average size of the lot will be observed on a board and properly evaluated—or as near as can be evaluated by matching.

Third, it gives a perspective view of evenness, which is all that can be expected from a visual inspection, as has been proved during the last seven years of trial with the panels.

The 225- and 450-meter skeins are generally used in the filatures

TABLE IX. Test No. 8884. Summary of Panels Based on Average Size. Taken from Table VIII.

Panel %	No.	Product % x No.	Panel %	No.	Product % x No.
26	1	26	74	6	444
34	1	34	75	2	150
41	1	41	76	4	304
43	1	43	77	1	77
48	1	48	78	2	156
51	1	51	79	3	237
53	1	53	81	4	324
59	2	118	82	2	164
61	2	122	83	3	249
62	1	62	84	3	252
63	1	63	85	5	425
65	1	65	86	4	344
66	2	132	88	3	264
67	2	134	89	4	356
69	4	276	90	2	180
70	2	140	91	1	91
71	4	284	92	2	184
72	1	72			
			Total	80	5965

General average, 80 panels, 74.0%.
Average, 20 low panels, 56.5%.

TABLE VIII. Percentage of each panel based on 14 deniers, the average size of test. Test No. 8884.

Board No.	Panel No.	Avg. Panel %	Avg. Size per Panel	Board No.	Panel No.	Avg. Panel %	Avg. Size per Panel
	1	88.8	13.50		41	68.7	14.54
	2	34.0	15.08		42	78.8	14.64
	3	81.6	13.86		43	89.0	15.00
	4	74.0	12.98		44	75.0	14.48
1	5	84.6	13.28	5	45	88.0	12.86
	6	59.0	12.12		46	88.7	13.94
	7	70.0	14.34		47	66.9	14.28
	8	92.3	13.46		48	72.3	14.16
	9	74.3	13.26		49	73.5	13.92
	10	83.6	13.76		50	85.5	13.48
	11	90.9	14.12		51	58.7	14.06
	12	69.9	13.66		52	75.7	14.78
	13	85.9	13.10		53	81.4	15.08
	14	65.0	13.22		54	76.0	14.58
2	15	85.0	12.98	6	55	77.8	13.26
	16	74.7	12.36		56	71.0	14.92
	17	53.1	14.90		57	61.4	15.05
	18	62.8	12.80		58	73.6	15.12
	19	71.4	13.98		59	60.7	12.76
	20	71.0	15.06		60	74.0	14.32
	21	75.9	13.72		61	75.6	14.84
	22	68.6	12.44		62	62.0	15.38
	23	83.7	13.36		63	86.4	13.10
	24	83.3	13.86		64	79.0	15.18
3	25	50.5	12.72	7	65	66.5	14.50
	26	68.5	15.26		66	45.3	15.54
	27	70.6	13.96		67	74.4	13.74
	28	88.0	14.36		68	81.0	13.98
	29	77.2	13.90		69	80.7	14.86
	30	85.0	13.68		70	90.3	14.78
	31	80.8	12.76		71	66.3	13.62
	32	25.5	11.44		72	77.9	13.18
	33	68.6	15.14		73	85.9	14.96
	34	88.7	13.88		74	85.0	13.68
4	35	79.0	13.42	8	75	89.5	13.96
	36	66.0	14.22		76	88.3	14.18
	37	83.4	14.28		77	84.3	13.84
	38	82.0	13.48		78	41.0	15.18
	39	84.5	14.30		79	83.0	14.10
	40	47.7	14.68		80	92.3	13.96

tion to the average size of the whole lot, which shows 62.2%. Based on the average size of each panel, the average is 74.4% and the difference is 12.2%. To clarify the study, see diagram *A*, showing the average percentage based on the average size of the whole lot, and diagram *B*, showing that based on the average of each panel. The diagrams are based on the diameter or microns and show the deviation from the average size.

The evenness of the silk is in relation to the average size of the lot and not to the average size of the individual panels, as is obtained by the panel estimates. This study emphasizes the importance of the rule given to

to check the reeling size. As the reelers have acquired sufficient skill to even up fine sizes with extra cocoons and produce a low range in average size, the thread is often very uneven within the sizing skeins. Nine-meter sizings are therefore required to show the uniformity.

As cost calculations on and specifications for woven fabrics are frequently based on the weight of a square yard, and as the foot of a full-fashioned stocking is knit separately from the leg, it is important to maintain the average size within limits of Silk Association rules.

When the average size is based on 225 and 450 meters, the results are influenced by accidental skeins of fine and coarse sizes, unless a great number are used. As this is costly, it follows logically that an increase in the length of the sizing skeins in the test for average size will not only reduce the cost of reeling and weighing the skeins but will give closer indication of actual average size.

Years of research indicate that 2250 meters gives a good range in average size and must be considered if a high-class product is to be maintained.

To correlate the deviation value in percentage with evenness, the squared deviation is used, as on the 9-meter sizings. Readings are taken in half sizings.

Following tests giving number of skeins show relation between 450 meters and 2250 meters on same silk.

Size	450 Meters	2250 Meters	450 Meters	2250 Meters
11	3	1	..	..
11½	1	..	..	..
12	1	..	3	..
12½	1	2	3	..
13	2	1	11	5
13½	6	..	10	2
14	6	..	10	3
14½	5	3	5	..
15	10	2	6	..
15½	5	..	2	..
16	6	..	..	..
16½	3	1	..	..
17	..	..	..	..
17½	1	..	..	..
Total	50	10	50	10
	Average size, 14.46 denier. Evenness on squared deviation, 84.3%. Range in size, 7½ denier.	Average size, 14.28 denier. Evenness on squared deviation, 85.2%. Range in size, 6½ denier.	Average size, 13.97 denier. Evenness on squared deviation, 93.7%. Range in size, 4½ denier.	Average size, 13.76 denier. Evenness on squared deviation, 98.5%. Range in size, 2 denier.

Applying the method of squared deviation as used on the 9-meter sizings in this study to the seriplane-panel standards, we find the percentages of the standards as given in column 3 in the following:

1 Silk Ass'n Standards, %	2 Huber's Diameter in Numbers 20-Meter Study	3 Squared Microns, %
100	141	94.5
90	192	85.0
80	127	94.5
70	208	78.8
50	360	60.5
30	432	25.0
10	611	8.0

Column 1 represents the percentages given to the Silk Association standards. Column 2 represents the total deviation from the averages as shown on the chart presented to the Raw Silk Classification Committee, March 20, 1929, and given in the *Silk Journal* on page 60 and 61, November, 1930. Column 3 represents the percentages calculated by the method of squared deviation, using Mr. Huber's measurement on 20 meters.

A perfect match with 100, 90, and 70 panel standards were back wound, parted into 9-meter lengths, and weighed on a torsion balance. The percentages shown by the squared deviation micron method on these panels are as follows: Standard, 100—Squared Microns, 96.0%; Standard, 90—Squared Microns, 85.4%; Standard, 70—Squared Microns, 62.6%.

Table II shows that there is no 100% raw silk, but rayon reaches 99.1%.

Mr. Huber's measurements and the percentages calculated according to squared deviation show that all the estimating with the standard panels has been based on an 80% standard that is more even than the 90% standard; therefore any calculation based on the relation between the general and low average is of little value.

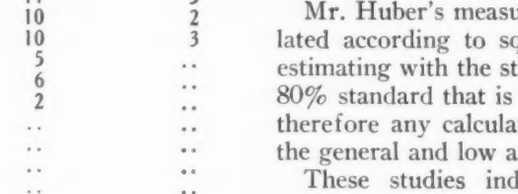
These studies indicate that, if the standards are properly evaluated, the general average represents the evenness as near as can be expected by matching; that matching always gives a higher rating than weighings of 9-meter skeins; and that, if this error is determined and the new standards evaluated with a correcting factor, the low average is unnecessary.

Screen Printing Invades New Fields

(Continued from page 25)

pletely before the hot soaping. This method is only in its infancy. Some of the Indigoid vat dyes and some of the Anthraquinones give full fast prints, but others seem to resist fixation; probably some adjustments in the formula will correct this.

Trials with this method of wool printing disclosed a curious fact; we attempted to use it to print on a union fabric and found that the cotton did not take the dye at all. Later we found that the presence of ammonium chloride acted as a resist to the development of vat dyes on cotton but favored their action on wool. A new style of printing was tried and proved feasible. Cotton cloth was padded with vat dye, Hydrosulfite NF, bicarbonate of potash, and very little gum. It was dried slowly, then printed with ammonium chloride and thickening. For colors, we used chrome colors with a little neutral potassium chromate. When aged, the vat dye fixed on the cotton except where resisted, the hydrosulfite reduced the chromate and made a mordant for the chrome color; and after oxidizing and soaping, we had a vat ground with white and colored pattern. The whites were much better than the colors. It is hoped that printers will conduct further experimentation along these lines and develop something practical. It is possible to have rather full shades for grounds—much heavier than the usual padded vat ground—and the ammonium salt will resist them; we can thus have the fastest prints that have ever been made.



Detail of muffler shown on page 25

Questions... *and* Answers...

WE UNDERTAKE to answer, free of charge, to the best of our ability, questions pertaining to textile matters received from any regular subscriber to TEXTILE WORLD. We do not undertake, however, routine analysis of yarn or fabric, or investigation involving unusual expense.

Inquiries should give the fullest information and data possible. In the case of damage to material, a sample should be sent. All inquiries must be accompanied by the name of the person inquiring, not for publication, but as evidence of good faith.

Letters expressing opinions or voicing criticism are cordially invited. These will be signed by the correspondent's name unless the letter itself contains a request that the name be withheld.

Determining Percentage of Rayon in Wool-Rayon Mixture

Technical Editor:

Will you please send me a simple method for finding the amount of rayon in a mixture with wool. (7528)

There are three components to test for: (1) moisture; (2) foreign dressing, usually oil; and (3) dry, clean fibers and their types and relative quantities. To test for moisture, weigh two separate samples in air. At the same time weigh samples for test Nos. 2 and 3. It is customary to run duplicate samples on each test, then compute and average the results. Dry the weighed moisture samples at 110° C. to constant weight (usually about 1½ hours in oven provided with circulated hot air), cool in a desiccator (which provides a moisture-free atmosphere), and reweigh in a closed container. Compute the loss in wt. as "moisture." Use these samples in the fiber test.

To determine the dressing, if oil, weigh a fresh set of samples of fabric and extract dressing by a thorough boiling in carbon tetrachloride. Repeat extraction by using fresh solvent on same pieces. Bone-dry samples in hot air oven, cool in desiccator, and reweigh. Compute total percentage lost, and subtract the percentage of moisture found in previous samples. The difference represents foreign matter lost in the extraction. A second way to determine oil is to extract as before, evaporate the solvent in a weighed, clean, dry container, dry residue in hot air oven at 110° C., cool in a desiccator, and weigh. The difference in weight between tared container and container plus oil gives the weight of oil. This weight of oil may be figured on the weight of ail-dried cloth, or better, on the weight of bone-dry cloth. Keep fabric samples for fiber analysis.

The method of analysis of the amount of rayon and wool varies with the type of rayon present. If this is acetate yarn, thoroughly and repeatedly extract the samples left from either the moisture test or the oil test with warm acetone. This dissolves the cellulose acetate and oil. When all of the acetate is dissolved, evaporate the acetone remaining in the wool by air drying, then bone-dry the wool residue, cool in desiccator, and weigh. Compute the weight of wool residue on the weight of air-dried fabric. Subtract the sum of the percentages of moisture, oil, and dry wool from 100. This gives the percentage of dry acetate yarn.

If the rayon is of the viscose or cuprammonium types, treat the weighed fabric samples with a boiling 1% water solution of caustic soda (1 part of solid caustic soda dissolved in 100 parts by weight of water) for 10 min. This dissolves the wool, and leaves the rayon. Filter through a 100-mesh brass sieve. Wash the rayon throughly in hot, distilled water in the sieve. Rinse the rayon thoroughly in dilute acetic acid, rinse in hot distilled water, then in acetone (or in alcohol, then sulfuric ether), dry off ether or acetone in air, bone-dry the rayon residue in a hot-air oven, cool in desiccator, and weigh. Compute 2½% of the weight of this residue and add this amount to the weight of rayon. This corrects for loss in weight of rayon due to solvent. Figure this sum as a percentage of the weight of air-dried fabric.

If the rayon is of the nitrocellulose type, use ½% of caustic soda and use a 5% correction factor. We thus find the percentages of moisture, oil, nad dry-fiber (either wool or rayan) residue. Add these percentages, subtract their sum from 100%. The answer is the percentage of the other dry fiber (either rayon or wool respectively according to method of analysis). This method gives the percentage of dry (or unconditioned) fiber based on the air-dried weight of fabric.

A somewhat better method of figuring is to determine the total weight of clean dry fiber (less moisture and dressing) in the cloth, then figure weights and percentages of dry-fiber residues on the weight of total clean, dry fiber. This gives the percentage of each dry fiber calculated on the so-called bone-dry, oil-free fabric. These weights of oils and of fiber may then be figured to their normal regain basis under standard conditions, and the relative proportion of conditioned fibers present in the conditioned clean sample of cloth may be obtained.

A satisfactory laboratory method for distributing the moisture (which is actually in the cloth when analyzed) between the respective fibers is to expose standard weighed skeins of each type of fiber to the same atmosphere as is the cloth to be examined, until moisture equilibrium is reached. Then determine the amount of moisture in these skeins by bone-drying in a hot-air oven and re-weighing. Figure loss in weight as "moisture."

Then correct the bone-dry weight of fiber residue obtained from cloth by determining the moisture percentage of the weight of residue fiber and adding it to its weight, as its normal moisture content. Do the same for the other fiber being found by difference. Any surplus moisture then goes to the dressing components. The results show the percentages of moisture-containing fiber and dressing.

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Streaks in Knit Goods

Technical Editor:

We are enclosing, herewith, a piece of fabric knit on circular knitting machine. The piece is knit from two cones of French tan and six cones of gray. The silk is a 14-strand Crack XX which was skeined by the same throwsters who have been doing our work for several years, and afterwards dyed by the same dyers who have been doing onr dyeing for a year.

It has happened on former occasions that a cone or two out of a 100-lb. lot showed signs of uneven dyeing. However in the last 100-lb. lot of gray, as well as French tan, this unevenness was so pronounced that hardly any of the silk could be used. Everybody concerned is trying to determine just what caused this uneven dyeing, and it came to our mind today that you might be able to help us in this investigation. If necessary, we can send you any or all of the cones from which the enclosed fabric was knit. (7527)

We have examined the samples of knit fabric and find that the goods contain short streaks along the courses. In one section of the fabric these short streaks appear in groups of three at intervals of about fifteen courses. This

condition indicates that the defect occurred on one side of the skein and originated from incomplete boil-off of the throwster's oil or gum at the tie bands, or from oil spots deposited on the skeins in lifting them from the boil-off bath.

Penetration is naturally slower at the tie bands, and more time is required to remove the oil and gum thoroughly at this point. It is possible that in this case the oil was completely emulsified and removed from the skeins, and was again deposited on the skeins in lifting them from the bath, which is normally covered with a scum of the oil in emulsified form. In removing the skeins, it is difficult to prevent some of this scum from attaching itself to the yarn. It does not discolor the undyed silk, but shows up in streaks when the yarns are dyed. To prevent oil stains from this source, the boil-off bath should be stirred to distribute the emulsion more thoroughly before removing the yarn.

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Fulling Knitted Fabric

Technical Editor:

We are enclosing a piece of knitted cloth and a sample of finished fabric. We shall appreciate any information you can give us regarding the fulling of this cloth to get the same finish shown by the sample. (7524)

Material of this character is wet out in a solution of 4 oz. of soap and 2½ oz. of alkali to the gal. It is well to wet out the fabric thoroughly in the washer in the grease, adding a little water to the bath. Run about 15 min., extract the surplus liquor, then proceed to full in the usual manner. This method of saturating before fulling will permit the goods to wet out evenly, and thus prevent "freezing" or mill wrinkles, so often found in this type of material.

When you have obtained the necessary amount of shrinkage in length, it will be well to full the fabric 2 in. below the finishing width, thereby giving a full handle and preventing a sleazy fabric. Scouring can be handled in the usual manner.

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Difficulty in Dyeing Wool

Technical Editor:

Enclosed you will find samples of a flannel (wool) fabric. These were dyed with the characteristic acid dyes applicable to dress goods. That is types such as follows: Fast Light Yellow, Acid Phloxine, and Alizarine Blue (SAE type), with 10% of glauber salt and 2% of sulfuric acid. The goods are carbonized before dyeing in a modern open-width carbonizer which has the carbonizing liquor (sulfuric acid) under accurate control. The carbonized goods are neutralized with ammonia. A patch from the dyed set is rinsed a few seconds under a faucet and dried. If it matches the standard, the set is then washed off. Another patch taken from the washed-off set will invariably come

up redder or yellower in tone than the patch which was considered a match.

"A" says that this difference in shade is due to the acid left in the small hand-washed patch not being as thoroughly washed out as it is in the machine wash, and also contends that such a condition must have existed as long as the same combination of colors has been used. "A" also states that it is due to the sensitivity to sulfuric acid of the acid dyes used. That is, it is "A's" opinion that the acid dyes (one or more of them), through their property of forming a chemical compound with acid, are thrown off their neutral tone, and as long as the cloth is acid, will show the acid color tone.

"B" contends that the condition is due to something which has happened recently. No matter what acid is used the change takes place. Besides sulfuric, formic and acetic acids and bisulfate of soda have been tried. Acetic acid does not show as great a change as the others. A piece washed free of acid after carbonizing, and which was neutral to methyl orange, changed when dyed with sulfuric acid. Another piece dyed before carbonizing, dyed with sulfuric acid, did not change to as great an extent as those carbonized before dyeing. Carbonizing after dyeing is not desired.

Another mill using same dyes and bisulfate of soda, and dyeing carbonized goods of somewhat heavier texture which are neutralized with soda ash, admits that this change has been always present. The other fabric has a smooth, clear finish.

Will you kindly inform me who, in your opinion is right, "A" or "B"? Please let me have you opinion as to what you believe to be the cause of the trouble. (7509)

The combination of dyes used in making this shade has been a subject of controversy since pre-war times. Formerly dyers used Alizarine Blue SAP, and found that it was subject to changes in shade according to drying conditions; the manufacturers decided this was due to its sensitivity of salt actions, and brought out the type SE and also several others of the same class to correct the known defects of the original type. The red in the combination was generally Alizarine Rubinol; but as this exhausted more rapidly than the yellow and blue, dyers were willing to sacrifice the fastness for the more level dyeing qualities of Azo Phloxine. At present the yellow is the slowest working color in the combination and is always present in the exhaust liquor. The short time that transpires between the taking of the swatch and the final washing of the goods is quite enough for still more yellow to be drawn on the fabric. All of the samples show more fullness in the yellow on the swatch taken from the regular washed goods. We suggest that this may be the cause of the difference.

If acetic acid gives better results than sulfuric, it may be assumed that the better leveling and penetration has carried the color further into the fibers, but acetic acid will not give as complete an exhaustion, and you will need a stronger acid to finally exhaust the bath.

A good way to dye goods of this sort is to start the dyeing with sulfuric acid and 2 oz. of pyridine per 100 gal. of dye liquor, but no glauber salt. This will give even dyeing and penetration; as the dyeing proceeds, the pyridine will evaporate; and at the end, the acid will give a clean exhaust. It is well to remember that wool will combine with a definite amount of acid, and no amount of washing will remove this combined acid. Washing removes only the loosely adhering acid on the surface, and the combined acid can only be removed by neutralizing with an alkali; this is evident in the handling of carbonized wool; therefore it is hardly likely that the color changes are due to acid left in the goods.

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Tolerance in Cotton-Yarn Numbers

Technical Editor:

One of our customers using knitting yarns, 10s and 12s, spun from strict-middling white 15/16-in. staple cotton, complains that our spinning does not run true to count—the tests being conducted without respect to atmospheric conditions and the variations being about 2% above or below the numbers. Do you consider such variation too great? Please advise fully as to proper method of making such tests, and the tolerance recognized in the trade. (7546)

The standard specifications of the Committee D-13 of the American Society for Testing Materials provides for the average size of yarns which "shall not vary more than 3% above or below the specified size." In the case of 12s yarn, for example, this tolerance would permit from 11.64 to 12.36.

These same specifications provide for tests of 120 yd., three skeins from each of four bobbins. On bobbins the yarn should be conditioned for twelve hours. In skeins the yarn should be conditioned three hours in a relative humidity of 65% at 70 deg. F. When the yarn is wound from the top of bobbins or cones, the reel should turn 100 to 300 r.pm.; but when wound from the side of bobbins or tubes, the reel should turn 20 to 30 r.p.m. When using one pigtail guide, the yarn should wrap around once; but when using two guides, the yarn should just pass through each. The American Society for Testing Materials advocates testing yarns under the condition of 70 deg. F. temperature and 65% relative humidity. According to Hartshorne's tables, cotton regain is 8.8% under these conditions. Now let us suppose that the testing room varies from 60 deg. to 80 deg. in temperature

and 40% to 60% in relative humidity, which are entirely within reason. The following regains are possible:

Temperature	Relative Humidity	Regain
40°	60%	5.7
60°	60%	8.1
40°	80%	5.5
60°	80%	7.8

A skein of 120 yd. of 10s cotton yarn should weigh 100 grains under standard conditions. Under the first condition (40 F. and 60% r.h.), the same skein should weigh 97.16 grains still to be 10s. In the second case, the skein should weigh 99.36; the third, 99.96, and the last, 99.08 grains.

To rectify this discrepancy, it is suggested that your client use a room in which the temperature and humidity are under control, or that he record the condition under which the sizings are made and correct the sizings to standard condition.

The formula below is one by which the sizings can be corrected:

$$C = \frac{W\ (100 + Rs)}{100 + Ra}$$

when

C = Corrected size
W = Actual weight
Rs = Standard regain
Ra = Actual regain

To facilitate the use of this formula, a table can be figured and placed in the sizing room.

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Knitted Astrakhan

Technical Editor:

In making astrakhan yarns for the knitting trade, are we correct in understanding that the curls are made on the knitting machine by the use of a binder thread? (7556)

This assumption is incorrect. For astrakhan fabrics a special yarn is used which contains the curly characteristics peculiar to astrakhan cloth. This yarn is a backing or laid-in thread, and the binder thread merely ties in the backing without giving any curling action whatsoever.

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Worsted Yarns Cap Spun from Untwisted Rovings

Technical Editor:

I should like to get the following information in regard to spinning soft rovings on cap spinning frames: (1) Are there any cap frames spinning soft rovings? (2) Are the rovings carried on woolen cards and then spun, or are they made on English drawing? (3) How fast can cap frames be run on soft carded rovings, and is it a hard-twisted yarn? (4) Can regular English cap frames be converted to run soft rovings? (7562)

1. (a) Over fifteen years ago there was a new woolen-spinning cap frame placed on the market. The cap was fairly large, and the bobbin speed was between 3,000 r.p.m. and 4,000 r.p.m. The customary claims were made regarding increased production, decreased production costs, and the quality of the product. This frame, evidently, was not a success, for it did not find any favor with woolen-yarn manufacturers.

(b) In worsted-yarn manufacture the cap frame is almost the universal method of spinning for oiled, Noble-combed tops. French-drawn rovings, made from "dry" tops, have been spun on cap frames, but so far the results obtained have not encouraged an extensive use of cap frames in French-yarn manufacture.

An exhaustive series of tests was carried out at the City of Bradford Technical College, Yorkshire, England, in the year 1916 or thereabouts. Fourteen types of worsted yarns were produced, among which were (a) Continental-drawn and Continental-combed dry cap-spun yarn and (b) Continental-drawn and Noble-combed-in-oil cap-spun yarn. In the report was this statement:

"A most valuable feature of the investigation is the result obtained from the material Continental-drawn and cap-spun. These cloths compare with those produced from mule-spun yarns and are decidedly superior to the products of cone and open drawing. This result indicates the probability of being able to produce the typical Continental worsted cloth while maintaining the cap method of spinning."

Many mills have experimented with cap-spun French-drawn yarns. Some have been unsuccessful. A few have proved that such yarns can be successfully spun.

A "soft" roving (we assume that you refer to twistless roving) cannot be produced on the English system of worsted drawing. The basic feature of English drawing is the use of twist in every process after the can gill box.

Woolen yarns are being spun on woolen ring-spinning frames. For certain fabrics the yarns are said to be very satisfactory, but the end of the woolen mule cannot be prophesied.

The speed of a cap frame is controlled by the winding conditions, the required characteristics of the yarn, and the quality of the stock being run. There are no figures available for the speed of cap frames spinning woolen yarns. The cap method of winding is not adapted for soft twists. Soft-spun yarns require comparatively low speeds. At low speeds it is difficult to obtain the necessary winding tension. Perhaps the last statement will explain why the ring frame has been more successful than the cap frame in the spinning of woolen yarns.

English cap frames can be converted to spin French-drawn rovings, but the procedure is not advisable. New rolls and roll stands would be required. This includes back, front, and carrier rolls. A new creel would be necessary to accommodate the new packages. The frame should be equipped with a variable-speed motor. Standard atmospheric conditions would be governed by the amount of oil in the roving. For frame spinning, using French-drawn roving 1½% oil, 75 to 80 deg. F. and 60% relative humidity have been found to give good spinning conditions.

Several mills are using worsted ring spinning frames successfully for certain counts and qualities of French-spun yarns. Other mills have experimented with them but have been disappointed. One mill has recently purchased mules, because it could not produce the yarns it wanted on its ring frames.

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Dyed Wool Is Uneven in Shade

Technical Editor:

We are taking the liberty of sending you two skeins of 2/30-60s dyed yarn. We are having considerable trouble with 60s yarn in getting it dyed evenly. Skeins out of one batch and made from the same tops are different shades, some light and some dark, and this runs all through the batch.

We shall appreciate it if you will tell us the cause of our trouble and also advise us if you find any trace of oil or soap in this yarn. We should like your advice on this matter as soon as possible, as we would like to rectify this trouble at once. The skeins we are enclosing came out of one lot and were secured and dyed together. (7523)

An examination of the two skeins submitted with your inquiry leads us to believe that the reason for the difference in shade is not due to improper dyeing methods or to the presence of excess oil or soap in the yarn. After stripping the color from the skeins, we attempted to redye them to a uniform shade, but with no better results than you were able to obtain. It is our opinion, therefore, that since wool of the same quality and from the same lot was used in the manufacture of the yarn, the difference in shade is caused by a variation in the twist introduced during spinning.

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Bigelow-Sanford Controls Drive for Carpet Loom

Technical Editor:

The April 4, 1931, issue of TEXTILE WORLD contained on page 52 an article by the writer describing a particularly wide and heavy carpet loom built for the Bigelow-Sanford Carpet Co., Inc. The design of the individual motor drive and the arrangement of electrical-control equipment was developed by the engineering staff of Bigelow-Sanford Carpet Co., Inc., and are covered by patent No. 1,782,945, dated Nov. 25, 1930, granted to Edwin W. Stone and Eugene Martin, and assigned to that company. The General Electric Co. assisted in making use of available standard control apparatus and supplied the electrical equipment.

W. A. MAYOR, General Electric Co.

New Machinery *and* Processes

Single-Apron Stock Dryer

DEVELOPMENT of a new, all-metal, single-apron stock dryer for handling wool, cotton, silk, hair, rags, etc., has been announced recently by James Hunter Machine Co., North Adams, Mass. Features of the dryer are balanced heating and coördination of air flow, travel of stock, and construction of the equipment. These characteristics are said to permit stock to be dried to any predetermined moisture content and to give high operating efficiency.

The unit consists of a heavily insulated sheet-metal housing; endless apron constructed of self-cleaning, perforated steel plates; heating coils of an improved design; and centrifugal fans of the upblast type. Integral with the dryer is a special automatic feed which combs out the stock and drops it vertically at the desired width and thickness onto the dryer apron.

All fresh air is drawn into the dryer through an inlet located in the delivery section of the machine, where its passage through stock being delivered serves to give it a preliminary or preheating. The air is then sucked into the first fan inlet, picked up by the fan, and discharged down through the heating coils located in the delivery section of the dryer. After passing through the heaters, the air continues down through the stock where it is split up or separated, some of it returning to the first fan for recirculation and re-use. The balance of the air is sucked into the fan inlet in the next section and the process repeated as many times as there are sections in the dryer until it is exhausted under pressure practically saturated by the fan in the last or feed section.

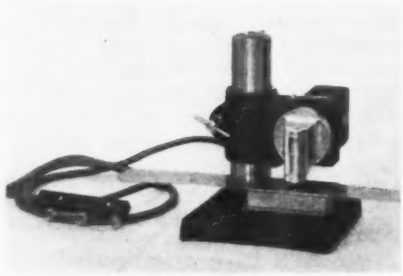
As a certain proportion of the air is exhausted under pressure at the wet or feed end of the dryer, a vacuum is set up in that section. This vacuum is immediately replaced by air coming in through the fan from the next section and so on down through the dryer where the fan in the last section sucks in fresh make-up air from the outside.

In operation, the wettest stock falls onto the apron at the feed end of the dryer. As it is carried upon the conveyor through the machine, the hottest air is applied at the feed end of the unit. The heating coils are graduated. Thus as the stock gives up its moisture and becomes dryer, the temperatures of the air are graduated and balanced according to the dryness or the moisture content of the stock. In this way stock is dried to a predetermined moisture content, without becoming parched, or baked. In addition, a cooling section at the delivery end of the unit serves to condition the material before it leaves the dryer.

An advantage claimed for the perforated-steel-plate apron is that it does not clog, thus permitting free passage of air, reducing cleaning time, and eliminating the need for complicated doffer mechanism. The apron plates are equipped with metal guards so designed that consecutive plates form a traveling wall on each side of the apron. This guard feature permits stock to be loaded uniformly to the edges of the apron, since it cannot blow off or fall down the sides of the conveyor.

A stock guard fastened to the dryer framework and overlapping the apron guards so that the chain always runs in a protected enclosure prevents clogging or fouling of the chain. The return run of the apron is covered and protected by a metal pan to catch possible siftings from stock. This pan not only keeps the return run of apron clean, but eliminates space not necessary for circulation. The fans are designed to eliminate any tendency of air to eddy and to prevent dead air spots.

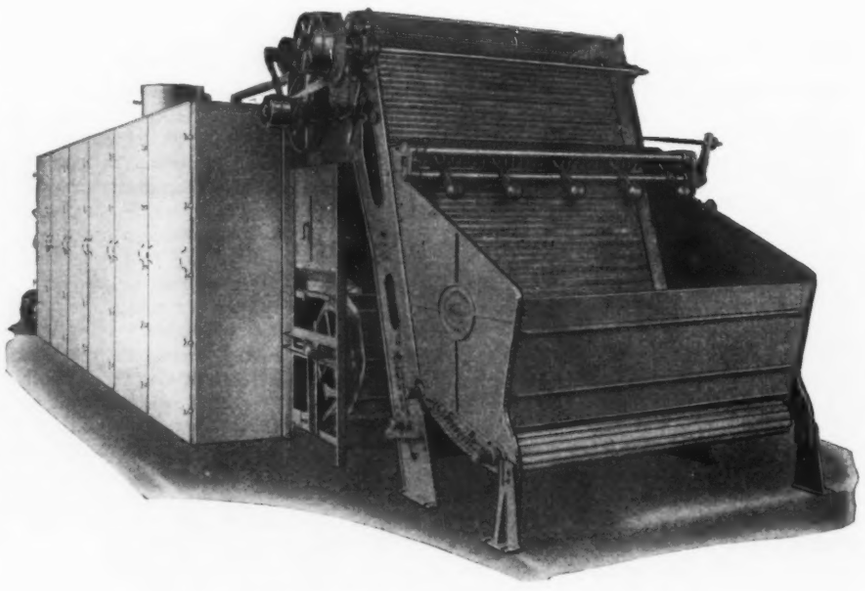
Since the coils have no return bends, elbows, or nipples to cause leakage, the pipes are placed very close together, increasing radiating surface per cubic foot and reducing the floor space ordinarily required. Additional features of the dryer are Alemite-Zerk lubrication; elimination of all belts, pulleys, etc., from the side of dryer; sprinkler equipped throughout; and fireproof metal construction.



Electric gage for measuring thickness of sheet metal, textiles and other materials

Electric Gage

AN ELECTRIC gage which measures one one-hundred thousandth of an inch, and then magnifies that dimension 10,000 times so that the average workman may speedily and accurately read the result, has been developed by the



All-metal single-apron stock dryer

general engineering laboratory, of General Electric Co., Schenectady, N. Y. The gage is said to be suitable for almost any type of measurement, with certain changes in the set-up. Thus the thickness of flat materials, such as sheet steel, textiles, or paper, may be determined.

The gage consists essentially of a contact point supported to move through a limited distance in the direction of measurement, say 0.0005 in. This movement causes a pointer to travel 5 in. over the scale of an indicating instrument. The magnification of movement is obtained by unbalancing a bridge circuit of four inductances. A 500-cycle alternator supplies power to a small transformer which, in turn, supplies power to the four inductances. Two of these are small coils in the electric gage head. The inductance of these is varied by the movement of a pivoted steel-lever armature, one end of which moves between the coils as the contact point on the other end conforms to the surface of the piece being measured. The contact point is in the gage spindle, which is made to fit the work. The other two inductances of the bridge, together with the transformer and indicating instrument, are mounted in an indicating unit, which is placed in easy view of the operator. Recording instruments for use with the electric gage are being developed; and relays for controlling operations based on thickness of material can be applied.

Self-sharpening thread cutter of improved design

Self-Sharpening Temple Thread Cutter

A NEW loom part recently developed by Draper Corp., Hopedale, Mass., is a self-sharpening temple thread cutter. The new thread cutter is designed to take the place of the cast-iron thread cutter, which in turn superseded the double steel-knife tvpe. In the case of the cast-iron cutter, it was found that, although the operation of the cutter against the stationary steel knife tended to wear away the contact surface of the cast-iron cutter and thereby kept the knife always sharp, the knife end wore down faster than the rest of the cutter and the spring could not keep the cutter in contact with the knife. To eliminate this difficulty, the new cutter is built with a taper and then restored to its full width at the cutting edge. Now as the cutter wears down, the taper of the body of the cutter allows the spring to keep the cutter and the stationary knife always in contact.

Textile-Laboratory Microscope

ANNOUNCEMENT of a textile laboratory microscope, which is especially designed as a basic instrument for textile work, has been made recently by Bausch & Lomb Optical Co., Rochester, N. Y. The microscope is sufficiently complete to handle average textile laboratory problems conveniently and quickly; and as the scope of the work increases, the design of the instrument will permit the addition of standard optics and accessories to meet the new problems.

Magnifications of 20x, 40x, 50x, 100x, 105x, and 210x can be obtained with standard equipment. Extra optics are available if other magnifications are desired. The eyepieces are provided with a cross-line disk held rigidly in focus but easily removable for cleaning. An Abbe substage condenser is provided for concentrating the illumination on the specimen. It is devisable, permitting removal of the upper lens and the focusing of the lower lens. The entire field can thus be illuminated when working with low-power objectives. This construction also makes possible the use of a dark-field element, making an inexpensive but thoroughly efficient equipment for examining translucent or light-colored specimens.

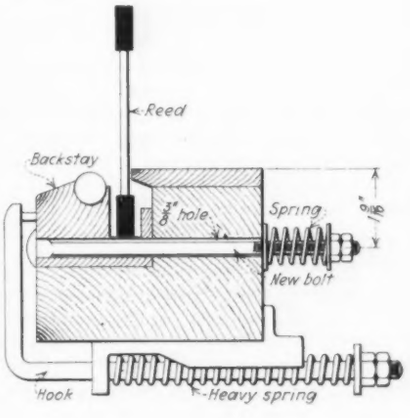
With the microscope, there is included a dark-ground stop for use below the condenser for showing to better advantage surface conditions of specimens with low-power objectives. A blue glass is provided for daylight illumination when artificial light is used. The circular stage, graduated in degrees with a vernier attached, is useful in analysis of many textile materials under both ordinary and polarized light. A mechanical stage, valuable for exploring the different sections of a specimen systematically, is built in, so that it is held rigidly but yet can be conveniently operated. It is quickly removable if it is desired to use only the plain stage with ordinary spring clips to hold the object. A tight-fitting slide is then placed in the groove when the mechanical stage is racked off. Scales on the mechanical stage, graduated in single millimeters with verniers, make for ease in relocating any particular section of the specimen for comparison or for photography. The mechanical stage can also be used for measuring (within the limits of its scale) by taking the difference in readings between the extreme limits of the object using the cross line as a reference.

A second model is offered with a plain circular stage graduated, and provided with an index. All other parts of this microscope are identical with the model previously described. The two stages are interchangeable. Standard accessories, such as an inclined-eyepiece adapter, measuring eyepieces, illuminating units, polarized light equipment, and a camera lucida, are available and may be quickly attached by the user.

Microscope developed especially for textile-laboratory use

Spring Reed-Release Motion

DEVELOPMENT for silk and rayon looms of a spring reed-release motion which aids perfect joining has been announced by Crompton & Knowles Loom Works, Worcester, Mass. This motion permits the reed to give $\frac{1}{8}$ in., or more, and still maintain a set pressure at each beat-up. Consequently, with this adjustment it is not necessary for the weaver to set his lay after a pickout closer than $\frac{3}{32}$ in. from its original position in order to obtain a perfect joining. The motion also assists in overcoming defects due to uneven filling, the properly adjusted reed compensating for variations in filling diameters. In addition, it is stated, the device tends to offset loom vibration and resulting defects.



Reed-release motion for silk and rayon looms

Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

◆

Overseers' Salaries

Editor, Overseers' Round-Table:

I THINK that an overseer's salary should be based on what he does. What he could do if opportunity arose is of no value to the company. Many overseers in the trade today have the ability to fill better positions where the salary would be more, but while they are overseers their salary cannot be raised above a certain point. To give them an increased salary on the basis of their ability would only invite the company to replace them with less skilled overseers.

I think a scheme of paying according to ability would work against good men getting employment. Increased ability in subordinate posts should not be met by increased salary, but by more rapid promotion to more responsible and better paid positions. W. E. WARNER.

England.

Telling Workers Company News

Editor, Overseers' Round-Table:

I DO not hesitate to say that, in my opinion, it would tend to create a more friendly feeling if the employees were told something of the financial condition of the company and given an insight into how things are handled generally.

There is usually a know-it-all in every plant who will tell the workers of the enormous earnings of the company and, much as it is to be regretted, many of the employees will fall for it and reach the conclusion that the company is not giving them a square deal. It would be much more satisfactory for all concerned for the employees to get reliable information direct from the company which would refute these false rumors. K.M.S.

Editor, Overseers' Round-Table:

IN REGARD to informing the foremen and operatives about the general condition of the company and its progress: It is the writer's opinion that such a policy would only agitate much unnecessary gossip and criticism which are an irritating evil in all mills and in life in general.

There is no benefit which would be derived from such a practice, in fact it would be wiser to get the operatives discussing something apart and not concerning the mill at all. As everyone knows, women, as a rule, are inclined to gossip more than men.

If one has something of interest relative to ways and means of carrying on operations, or anything that is educational in the operatives' sphere of work, then it is feasible to inform them. "INCOGNITO"

Editor, Overseers' Round-Table:

I DO not think it a good policy to tell overseers and workers too much about the financial conditions of the company. They will take too much for granted and will think the company should pay more when it cannot. Always keep the good will and confidence of the workers, give them a square deal, pay as much as possible and impress on each one that good work is for their benefit as well as for the company's. C.J.S.

The Overseer Dis

"YOU all know," Superintendent Chase started the meeting, "that there are various tests which must be made from time to time to determine whether the product of different departments is being turned out as it should be. Naturally, I get reports of all these tests and if anything shows a greater variation than it should I check with the overseer to see that the difficulty has been overcome. The thought has occurred to me, however, whether it is well to have the overseer make the tests for his own department, or whether tests should be made by someone who is assigned to do all the testing. What do you men think?"

"That's easy," Bill spoke up. "Let the overseer do all his own testing. He is the one who has to correct anything that is wrong and it is much better if he does the testing himself. There are many times when an overseer can tell a lot more from tests than might appear on a written report and he losses this chance if someone else does the testing. The most important thing, however, is the effect on human nature. If the spinner, we will say, sizes the yarn and finds it off count he says to himself, 'here, here,' and rushes out to fix things. If, however, some young lad comes in with reports and tells the overseer that all is not right the overseer is pretty sure to try and defend himself, and he will blame everything under the sun outside of his department. If the super sees the reports befor the overseer there is even worse buck-passing. There are plenty of checks so that an overseer can't go on producing poor work and I think that it works out much better if he does the ordinary day-to-day testing himself."

"When you spoke of human nature," Pete came back, "you queered your own argument. Isn't it human nature for a man to sort of help things along when he is testing the products of his own department? No overseer likes to have a report go up to the super showing that everything is not

Discuss Testing

running just right and isn't it just human if he sometimes 'steers' the tests? Take the spinner Bill spoke about: If he reels off some yarn and it sizes way off count he is going to say to himself 'well, that is just a freak' and he goes on reeling until he gets what he wants. He doesn't mean to cheat, but it just isn't natural to put all the bad in. Sometimes the overseer will say to himself 'this is just a little thing that I can fix and there is no use bothering the super' so he doesn't report poor tests. With an outsider doing the testing the tests show what is actually going on, not just what the overseer wants to go on. The super is entitled to correct information and if the super and overseer have any sense there isn't going to be any of the buck-passing Bill spoke of. In fact, if the super knows the real story he is often in a position to help the overseer by perhaps changing things in the preceding department."

◆

Do *you* think that overseers should do their own testing or should all testing be done by someone not connected with the department?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

Editor, Overseers' Round-Table:

IN CONSIDERING the advisability of telling the workers what is going on, it is to be presumed that the workers are loyal, conscientious and industrious. To get the most out of the employees, they must be interested in their work. This is where men differ from machines. You cannot get a machine interested, or get it to think. An employee will always think. If he is not thinking good he is thinking bad. He should, therefore, be encouraged to think and take a lively interest in the progress of the firm.

There are many men possessing natural business instinct, who are longing to start a business on their own account. They long for the stimulating business side of the work, but they have not the necessary capital to carry out their ideas, and never will have. Why not harness these men's desires to the firm? It will help and encourage them as well as being beneficial to the company.

The method of telling the progress of the firm may vary according to circumstances. A notice board, typed bulletins, or an occasional talk will do well for all excepting the large firms, many of whom already print a small magazine. Graph charts nearly always interest, as they show at a glance, whereas figures tire and bore. The charts should show rise or fall of production, expenses, waste, accidents, sickness, etc. The workers will always be interested to hear where their products go. I have often noticed the enthusiasm of men when they find an order has been received from their home town or, if they are of foreign birth, from their native country.

If done in a diplomatic way, I believe the workers may be educated to know something of the drawbacks of business, such as high overhead charges, taxes, insurance, competition, etc. Too often there is the assumption that all is "easy money," and, if properly explained, they will be amazed at the expenditure, which they had never dreamed of. Great care should be taken in discussing this particular subject, for if it is not given in a thoroughly convincing way, it will only be taken as "a lot of bologna," and more harm will be done than good.

I believe it is to the company's good to tell the employees more about its activities and progress, but there is, of course, a limit to the extent in which it should be carried out. Just as it would be unreasonable to expect the workers to give particulars of their private affairs, savings or possible investments, so it is also unreasonable to expect a company to give full particulars of its business.

ALFRED C. LAYZELL.

Libraries for the Mill

Editor, Overseers' Round-Table:

I THINK a library and reference file would be very good if there were a reading room and time set for reading. All would then have a place and opportunity to read. Good books are a help to everyone and may give the overseer and those in his charge something better to think about, which might be a help to the business.

If a reading room cannot be arranged I do not think that a library would work out so well. The overseer might select a good book and become so interested in it that he would forget that those in his charge would like to have the same chance to read as he has. I think this might cause discontent rather than the good hoped for. I would say: Have a reading room and time set to read, or do not have a library.

W. A. SCHOEN.

◆

Summary of Discussion on Telling Workers of Company Affairs

The vote on whether it is good policy for a company to tell it's employees something about orders, financial affairs and progress, was absolutely even. Half the contributions stated that it would only stir up trouble to let the help know some of the inside information, and the other half, while acknowledging that great care must be exercised and that it would not be well to give too much financial information, believed that interest would be stimulated and morale raised by diplomatically telling the workers something about the company.

As a Matter of Fact

YOU may not know woolens from worsteds, short fibres from long, but you do know *values* in clothing when you wear them.

Fabrics that wear well, dyes that hold their color, these are the things you appreciate in the clothing you buy. And these are the things you find in every yard of Ram's Head Fabric.

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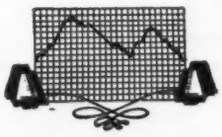
RAM'S HEAD FABRICS

STYLES THAT SET THE STYLE

◆ *Survey of Fabric, Knit Goods, Yarn and Raw Material Markets* ◆

TEXTILE WORLD ANALYST



Cotton Likely to Stay Weak Under Adverse Factors

By Dr. L. H. Haney

WHILE it seems probable that the pre-Easter expansion in cotton manufacturing was carried a little too far, the main cause of the April decline in cotton textile markets has probably been the weakness in the raw material. One way of diagnosing the situation is as follows:

We find that a period of resistance to declining prices and of stabilization in the cotton market developed around the turn of the year, when spot cotton at New York held slightly better than 10c. Then came some improvement in general business sentiment, in the outlook for conditions in India, and in the price of silver. The statistical position of cotton cloth gained considerably and hopes arose that the excess supplies of raw cotton might be reduced. Under the influence of these conditions, the price rose to 11.35c. But by the end of March it developed that any improvement in general business had been mostly of a seasonal character and the other favorable conditions began to wane, including the demand for cotton textiles. As a result, hopes for a reduction in the supply of cotton were abandoned and the price fell back to 10c. Not only this, but the average available supply of cotton in this country has been found to be actually increasing, so that the less favorable estimates concerning the carryover will probably be realized. If we start from the 10c. level at the turn of the year, it is now easily possible to figure that as a result of accumulation of supplies available in the United States, raw cotton may fall at least as low as 9c.

But no matter how low raw cotton may fall, *there is no good reason for lower cotton textiles.* Goods are too low for profits now and have been so right along, and there is no sense now in cutting textile prices on account of lower raw materials. Any further decline in cotton should be taken as merely presenting the possibility of reducing losses to manufacturers or securing a small profit.

Bull Points

1. Protracted rains in the western belt; and low temperatures over considerable areas retard germination; decreased fertilizer sales.
2. Total world production of cotton for the current season now estimated at 800,000 bales below the preceding season.
3. Domestic mill consumption increased more than seasonally through March.
4. The statistical position of standard cotton cloths showed further improvement in March, especially in the reduction of stocks.
5. Wide adoption of new night schedules in southern mills and maintenance of short schedules by fine goods mills help to prevent supply pressure in textiles.
6. Good demand for sheer high-grade goods and for some wash fabrics; cotton dresses being shipped in large volume.
7. Fairly steady call for the delivery of goods on contract may indicate moderate supplies for prompt delivery.

Bear Points

1. Acreage reduction estimates still indicate a cut of only about 10%.
2. Very large visible supply, with less than the usual seasonal decrease.
3. Manchester and most European textile centers very dull and depressed; demand in India and China about as backward as ever.
4. Poor credit conditions hamper mill operations in the South; curtailment programs limit the current demand for cotton.
5. Yarn sales slow and buyers hesitant.
6. Unfilled orders for cotton cloth decreased; orders for goods running out, and increased pressure to get new contracts; demand for finished goods and for fine gray goods has fallen off.
7. Some accumulation of cotton crepes and shirtings.
8. Replacement margins of manufacturers very low; considerable selling at price concessions by second-hands.
9. Automobile and tire businesses depressed.
10. General recession in commodity prices, including silk and wool; cotton prices in March were relatively high among textile materials.
11. Operations of the cooperatives in the futures market cause uncertainty and tend to put pressure on spot and nearby deliveries.

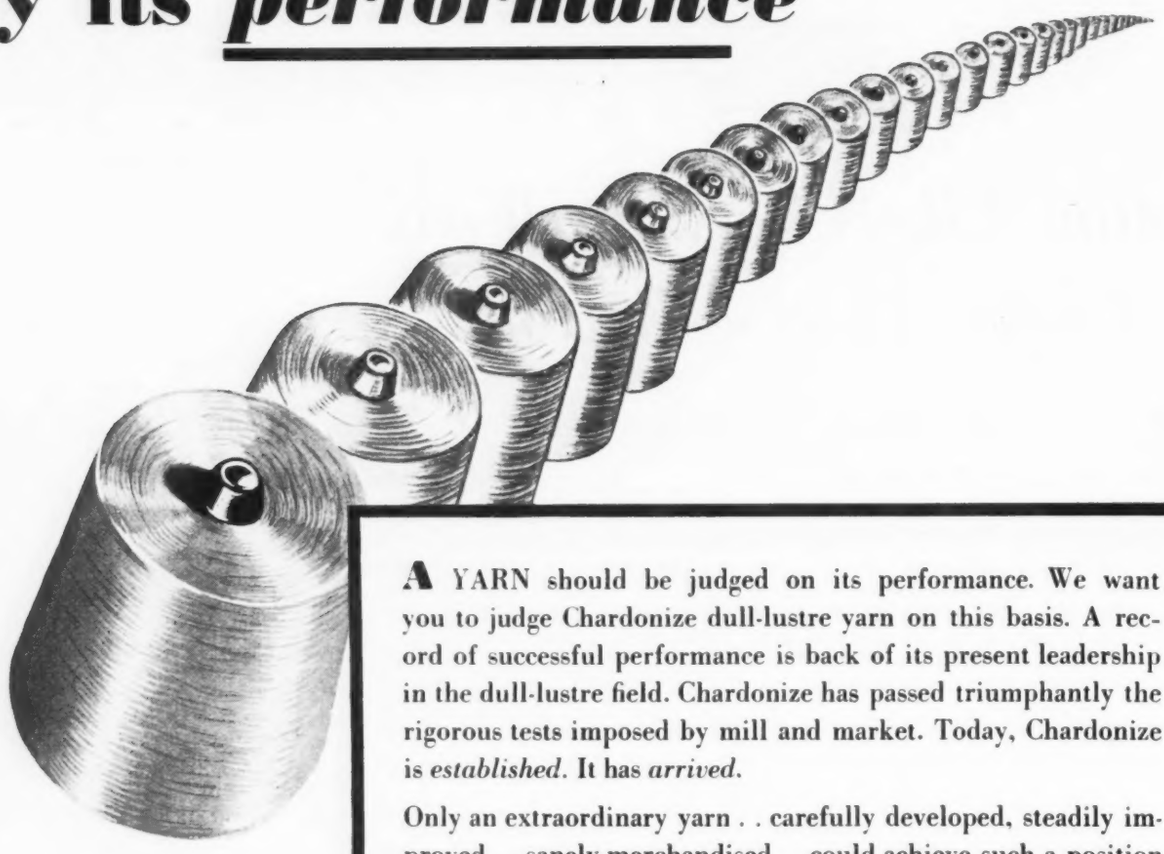
A cold appraisal of the situation indicates that, while some forces are at work which will be constructive in the long run, the immediate factors are predominantly unfavorable, and that continued weakness in raw cotton is likely.

It now seems probable that the domestic carryover will be even larger than hitherto estimated. In running bales, our present guess is that domestic

Summary: **Despite some gain in domestic mill consumption and in exports, the carryover looks as large as ever. With manufacturers' replacement margins low and declining, it now seems that only unfavorable new crop developments can prevent further declines in raw cotton prices.**

The analysis and forecast by Dr. Lewis H. Haney, director, New York University, Business Research Bureau which regularly appears on this page, considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.

Judge CHARDONIZE yarn by its *performance*



A YARN should be judged on its performance. We want you to judge Chardonize dull-lustre yarn on this basis. A record of successful performance is back of its present leadership in the dull-lustre field. Chardonize has passed triumphantly the rigorous tests imposed by mill and market. Today, Chardonize is *established*. It has *arrived*.

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mill consumption for the season will be in the neighborhood of 5.1 million bales. Exports are not likely to exceed 7.2 million bales (although at one time we were able to look for as much as 10 million bales). This would make the total disappearance about 12.3 million bales, which deducted from the total supply for the season of about 18.3 million bales, leaves 6 million bales. That would be an enormous carryover. Even with a new crop of about 12.4 million, it would put the domestic supply of American cotton well over 18 million bales to say nothing of the carryover in foreign countries. Under the circumstances, the apparent small reduction in the world crop in 1930-31 affords no considerable relief.

World spinners' takings for the season to date are estimated at only 8.7 million bales, against 10.9 and 12.3 in the two preceding years. This is at a rate considerably under 11 million bales for the season. It continues to warrant the opinion that the world carryover of American cotton will be much nearer 9 million bales than 8 million.

As of the end of March, our revised estimate of the total supply of all cotton in the United States available for the balance of the season is 9,428,000 bales. This gives an average per month for the remainder of the season of 2,357,000 bales. It compares with 1,752,000 bales in the preceding season and 1,410,000 bales in 1928-29. In fact, allowing for seasonal variation, the supply has not been exceeded (unless temporarily in June, 1930) since 1921. And the continued upward trend must put increased pressure on the market.

This is the more notable in that domestic mill consumption increased more than seasonally throughout the first quarter. Unfortunately, the increase in consumption was not so favorable as it might have seemed under other circumstances: (1) Actually the consumption was very low, the total for the quarter being the lowest since 1921. (2) Our estimate of the trend of the average manufacturers' replacement margin has continued to decline gradually until in March it was the lowest since the middle of 1924, and with that temporary exception (caused by a sharp rise in cotton) was the lowest in the last decade. (3) There is growing evidence that this low level of margins truly indicates a limited demand for cotton textiles, and, therefore, that the increase in manufacturing production represented some over-production.

Low and declining margins are usually followed by curtailment in production, and probably this will now occur. It therefore seems probable that our estimate for the domestic mill consumption for the season is fairly conservative and this makes the high level of the supply curve in the accompanying chart seem very unfavorable.

The TEXTILE WORLD index of cotton sales yarn prices declined during April to 53.6% of the average for 1921-25. This is a new post-war low and compares with an index of 54.7% last month and 74.5% a year ago. Spindle activity has increased during the last few months, but apparently is rather large compared with the sales of cloth, which ultimately determine the demand for weaving yarns. The recent spurt in cotton textile manufacturing has apparently come to a halt. Spinners' replacement margins are also near the post-war low, and this suggests the necessity for curtailed production. Recent declines in raw cotton prices have been more rapid than the declines in sales yarns, but not sufficiently so to indicate much strength for yarn markets. Unless spinners hold production down and adopt a firmer stand on prices, even lower yarn prices may be expected.

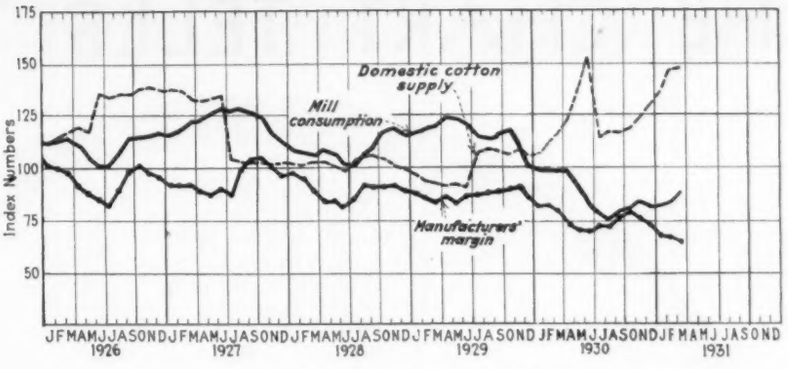
Index Numbers
175
150
125
100
75
50
Domestic cotton supply
Mill consumption
Manufacturers' margin
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1926
1927
1928
1929
1930
1931

Fig. 1. GENERAL COTTON BAROMETER: Consumption—Average Daily Adjusted for Seasonal Variation, three-month moving average; Manufacturers' Margin—Average of Replacement Margins; Average Monthly Available—Net Domestic Available for Crop Year Adjusted for Seasonal Variation. 1921-1926 = 100 for all indexes

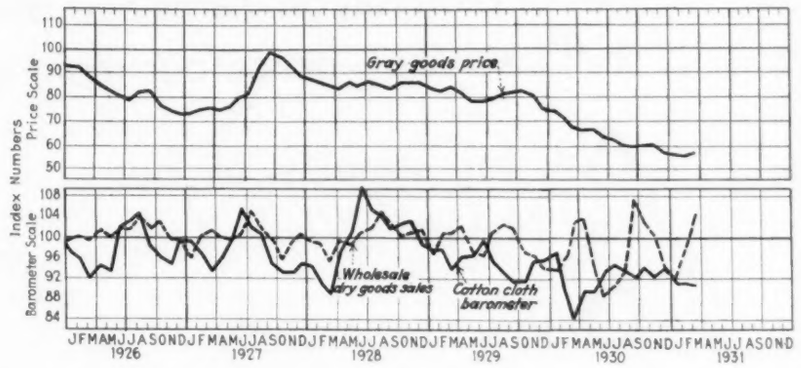

*Fig. 2. GRAY GOODS BAROMETER: Gray Goods Price—*TEXTILE WORLD *Index, 1921-1926 = 100; Cotton Cloth Barometer—Based on relation between orders for and production of cloth; Wholesale Dry Goods Sales Barometer—Based on Wholesale Dry Goods Sales Index of Federal Reserve Board.*

The rise in cotton cloth prices came to a halt in late March and declines occurred throughout the month of April. Under the influence of weakness in the raw cotton markets and the falling off in demand, the prices of leading gray cloths fell to the lows touched last August.

The unfilled orders of standard cotton cloths declined in March, after allowing for seasonal variation. Although shipments were well sustained, trade reports indicate a slackening in new orders in April. A further decline in unfilled orders seems likely in the April figures. The production of standard cotton cloth, however, was kept under good control in March according to the statistics published, and the adjusted index of stocks fell to the lowest level since October, 1927.

Gray goods replacement margins were a little higher in March, and although goods prices declined in April, raw material was cheaper and this prevented a sharp decline in the margin. Stocks of cloth are now at a level where margins might be expected to improve, but if unfilled orders continue to decline this desirable development is likely to be postponed by competitive forces.

Other indexes of demand for cotton goods make a mixed showing. Wholesale dry goods sales as last reported made a good showing but that is "water over the dam" which may have been due partly to an early Easter. Cotton jobbers' sales in the New York district in March were at the post-war low. Orders of gray yardage for finished cotton goods made more than seasonal gains from November through March, but the billings increased in about the same proportion and the absence of surplus demand tended to discourage price advances.

On the whole, the supply side of the equation in cotton goods is in a fairly healthy state, but the industry is held back by depressed general business and a declining general commodity price level. Further declines in cloth prices seem quite probable.

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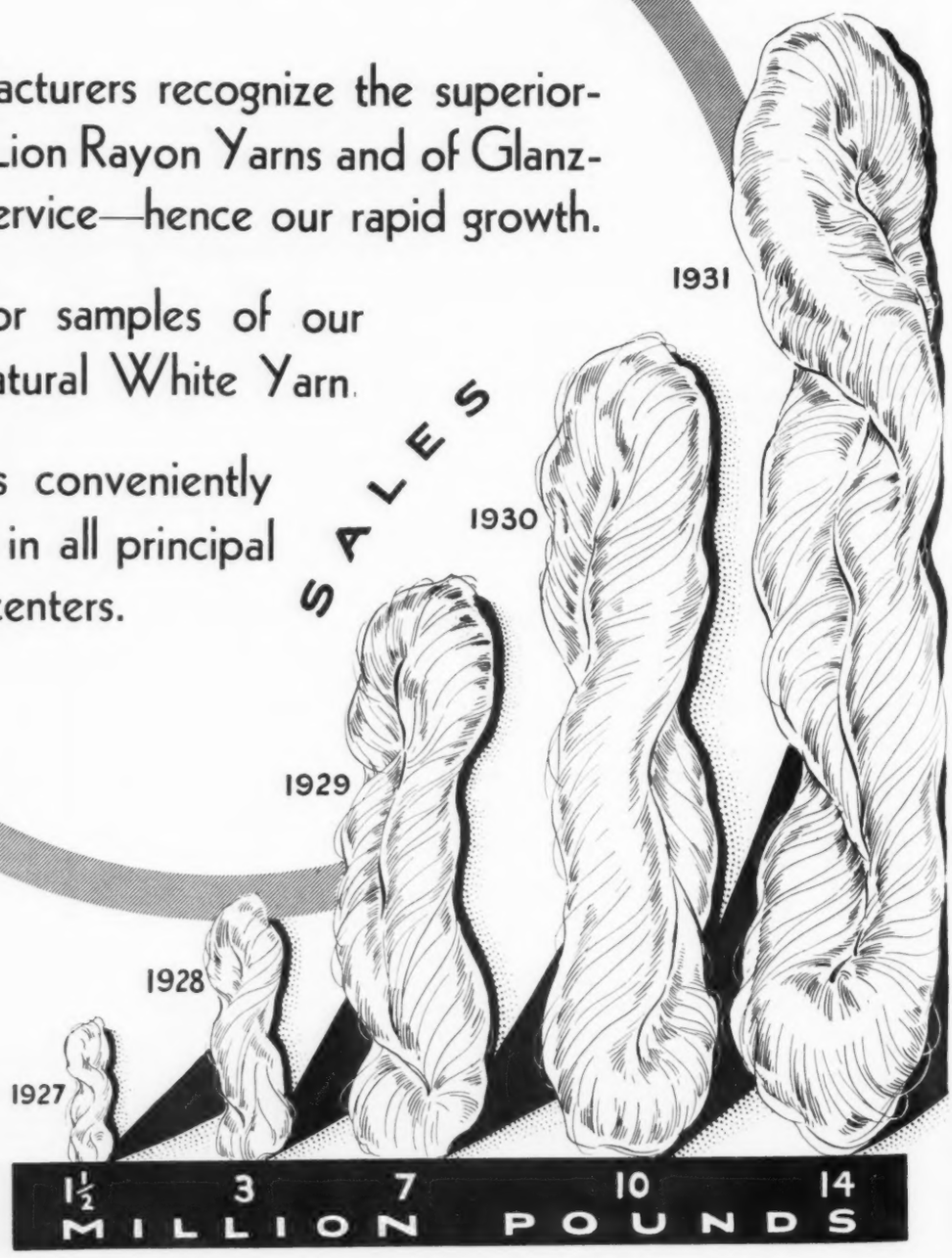

RAYON GLANZSTOFF YARNS

American GLANZSTOFF Corporation

180 Madison Avenue, New York City
Plants at Elizabethton, Tennessee

YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Yarns Hold Firmer Than Raw Cotton

COTTON yarns are weak but do not show the extreme softness which has been apparent in the raw material market. Although yarns are sagging under their own weight, spinners have been able to hold the decline in check to a degree that was felt impossible two weeks ago. Carded qualities have declined about ½c. from last week but not all will accept this level, there being many weaving yarn spinners who are quoting the same for 20s-2 warps this week as last.

Hosiery yarns are quoted at 17 to 17½c. for 10s, which represents a slightly lower basis than last week when the average quotation was around 18c. for 10s. The reduction during the week has been more apparent in these numbers than in weaving yarns, which are in relative larger demand than knitting.

Knitting Demand Small

Hosiery and underwear mills are taking little carded yarn, either on new orders or on old contracts, but there is a fair movement of combed numbers to this trade, confirming previous reports to the effect a number of such manufacturers were using more combed than in past years because of the low prices quoted for the higher quality. Numbers in combed such as 18s and 24s are holding much firmer than carded qualities in the same counts, mainly for this reason.

Decided weakness has developed in two-ply combed yarns as used by the mercerizing trade. Demand has been so limited for these twists that spinners, in many instances, have lowered prices several cents while the same counts in hard twist show comparatively little change. As an example, spinners of mercerizing twist ball warps have been quoting 58s-2 at less than 48c., but the same count in warp twist is held 2 to 3c. higher.

April was a dull month with most sellers and as small in volume as any month this year which means that it was no improvement over March. That was the poorest four-week period of the year so far but there was fair buying during January and February. Main interest, then as now, has been seen in weaving numbers; little in knitting.

Settlement of the upholstery strike in Philadelphia will not have any decided bearing upon the market. These mills are not in receipt of large orders and only a portion of their machinery will be operated for the present. Sales yarns lost little because of that strike, as many feel that the limited amount of upholstery orders current went to manufacturers in other sections of the country.

Yarn buyers do not feel that bottom has been reached, either in the raw material or in yarns, and for this reason no immediate change in activity is expected. Should there be a period of advancing prices in cotton then delayed yarn buying would assume fair proportions; without it nothing much is expected in the near future.

◆Cotton's Decline Continues Into May

THE declining tendency of the market noted during April continued into the beginning of May with prices making new low records for the season during last Saturday's trading when July contracts sold at 9.59 or 230 points below the high price touched on the rally of last February and 41 points below the previous low record established on the decline of last December. With reports from the South tending to encourage a belief in an acreage reduction of around 10% and with statistical developments strengthening the expectation of an end-season carry-over in the neighborhood of 8,750,000 bales, the market has failed to pay much attention to unfavorable features in the weather news, and has been particularly sensitive to the weakness in securities and reports of disappointing industrial earnings for the first quarter of the year. At the decline, there were evidences of an improved technical position, but moderate rallies were not fully maintained, and bearish sentiment was still considerably in evidence at the end of the week, although the selling was less aggressive and the market showed some indications of increasing resistance to the declines.

Market Briefs

Cotton: *With lack of bullish news, market sags lower.*

Cotton Yarns: *Prices are ½c. lower in dull market.*

Cotton Goods: *Goods prices decline faster than raw cotton.*

Wool: *Quieter tone; buyers of new clip take only bargains.*

Worsted Yarns: *Men's wear mixture yarns are active.*

Woolen Goods: *Fall men's and summer women's wear are selling well.*

Silk: *Market more active, but prices show little steadiness.*

Silk Yarns: *Thrown yarns more active for spot shipment.*

Silk Goods: *Distress print selling less of a factor; quality goods gain.*

Rayon: *Large consumption by rayon crepe weavers.*

Knit Goods: *Full-fashioned reduction curtails trading; call for fall underwear slackens; bathing suit situation gains strength.*

Expect Acreage Reduction 8 to 12%

During the week, two private acreage estimates were issued, one calling for a reduction of 10% and the other of 12%. As a general rule, ideas on acreage in the trade range from decreases of about 8 to 12% but there appears to be a tendency to expect that the final area may be nearer the smaller than the larger figure. Weather conditions, however, are of more immediate interest to the market than the size of of the acreage and the recent unfavorable conditions prevailing over the belt emphasized more than ever the necessity of a warm dry May if the crop is to get off to a good start. Cool temperatures have retarded germination in early planted sections and scattered rains elsewhere have delayed planting, so that the early season start has now received a setback. It is still the opinion of trade observers, however, that the crop is entering into May with about an average start so that conditions would rapidly improve should weather turn favorable.

It is recognized that weather developments during the current month will play an important part in determining early-season insect activity. Emergence of boll weevils was said to have been retarded by the recent cold temperatures prevailing over the belt, but one authority points out that more general reports of the insect's appearance may be expected once high temperatures occur. However, it is noted that reports of the weevil in damaging numbers may be confined to local areas this year on account of destruction of this pest by the hot, dry summer of 1930.

Increase in Carryover Foreseen

The recent decreased activity of the cotton goods markets as well as the less favorable developments in the general business situation, have now eliminated hopes of improved cotton consumption during the remainder of the current season. Consequently, ideas in the trade are still for an increase of about 1,600,000 bales in the carryover of American lint cotton at the end of the season. This would point to a visible supply at that time of about 8,750,000 bales, the weight of which may be offset partially by a decrease in the carryover of East Indian cotton by about 500,000 bales, according to a recent estimate of New York Cotton Exchange Service.

Sales at Memphis Limited

MEMPHIS, TENN., May 4.—Sales of cotton in this market during the week were limited both by light offerings and

THE BIG FOUR
in quality effects

EVENNESS The evenness of Acele deniers means more than exact yardage. It prevents rings in hose and barre in fabric.

COVERAGE Coverage is largely dependent on softness. Acele is a soft yarn and a covering yarn. It will give you maximum volume for length and weight.

SOFTNESS Distinctive softness is an all-important characteristic of this better acetate yarn. In addition to coverage, softness is responsible for hand and effective drape.

STRENGTH Wet or dry, Acele is stronger . . . sturdy enough to stand the beating of high speed looms. This means faster weaving . . . more first quality production.

Acele is produced in the following deniers: 45, 75, 100, 125, and 150. Friendly cooperation goes with all Acele deliveries.

ACELE DEPARTMENT, DU PONT RAYON CO., 2 PARK AVE., NEW YORK CITY: LEXINGTON 2-0022, OUR DOWNTOWN OFFICE, 40 WORTH STREET

indifferent demand. Merchants who oversold on some descriptions appear to have corrected their position in one way or another. Current inquiry from consuming centers is for small lots, mostly for immediate shipment; such inquiry is more exacting as to color than as to leaf and centers on ⅞ to 1 in. cottons, wanted in the brighter styles, which are scarce in first hands and are none to plentiful in the hands of merchants, practically none of whom are reselling.

The sharp decline in contract values has tended to restrict offerings, except at prices which would make the basis prohibitive. Sales during the week totaled 7,417 bales against 3,775 last year and 11,389 the year before, making 675,401 bales for the season against 975,411 last year and 885,966 the year before. The unsold stock has been reduced to 21,764 bales, consisting mostly of odds and ends, against 43,094 bales last year; current receipts are very light. The stock, sold and unsold, in Mississippi Delta compresses, generally referred to as "staple stocks," is 157,000 bales against 164,000 last year and 53,000 the year before. The staple association says inquiry is good but that great difficulty is being experienced in meeting requirements.

The weather during the week was more unfavorable than otherwise over most of the belt. Temperatures were unseasonably low and there were frequent showers that were not needed. Planting is well advanced in this territory, but very little is up and fears are expressed that much replanting will be necessary.

◆Strips Firmest Cotton Waste

UPLAND and peeler strips appear to be the firmest stocks in the cotton waste market at this time, a fair volume of business being done this week in choice and medium grades at prices unchanged from those ruling during the previous week. While peeler comber is quotably unchanged, the bulk of the small business moved this week was on the lower side of quotations, 8¼c. being paid in most instances, whereas a week ago as high as 8½c. was obtained.

Demand is conspicuous by its absence. Consumers come into the market only when they require a certain grade of waste to complete orders already booked, and are content to pursue a waiting policy to the exclusion of anticipating future needs. Lack of business is not the only discouraging feature of the market; much complaint is heard about inadequate profit margins, and in some cases of their entire disappearance. This situation has been recurring for two or three years.

◆Worsted Yarns For Men's Wear Active

BRADFORD or English spun yarns are coming into their own after a long period in which bulk of demand from knitters had been confined to French. Most of this year French knitting yarn spinners have had larger proportion of their spindles engaged than the English group. For a time spinners of both types reported that their French was operating full time while English was only 20% active, showing the wide difference in demand for the two.

Because of the steady demand, French spinners were able to hold prices steadier than did the English group, which condition continued for such a length of time that the differential in favor of the French became considerable. The inevitable reaction followed and the difference in price has now reacted in favor of the lower priced English spun types.

More Two-Ply Used

Although there has been a swing toward English type knitting counts, there has been a trend in an opposite direction in larger request being seen in two-ply as compared with the former strong tendency for knitters to swing to single dyed counts. With yarn prices much lower a number of manufacturers have begun to use two-ply in larger quantity. The strong swing toward use of single by knitters during recent years was an endeavor to lower the cost of their raw material and at the same time produce a garment that felt the same. In this they were entirely successful.

Yet these manufacturers have never admitted that a garment made from single would outwear one made from two-ply. Single yarns are not going to lose their strong position but low yarn costs will cause a number of manufacturers to resume production of two-ply suits which they can merchandise at same prices and give better wearing quality to customers.

Men's Wear Mixes Active

The feature of weaving business is the large volume of business that is being placed by men's wear manufacturers. The goods markets have seen activity in heavyweight men's wear during recent weeks, but this is just now being felt in the sales yarn market. Men's wear mills, especially in the Philadelphia area, are buying mixture yarns, English and French, in fair size amounts, covering their needs for 4 to 5 weeks.

Bradford weaving and knitting counts show no change in price as compared with last week. This section has been showing more resistance than French system counts. French knitting and weaving numbers in many instances have been lowered 2½c. this week. Men's wear mixtures in 2-30s, 64s, French, are quoted at $1.45 to $1.47½ or 2½c. less than last week. English spun knitting counts are selling on basis of 80c. for 2-20s, 50s.

◆Movement of Wools at Slower Rate

THE wool market is sluggish. Stabilization of prices has improved the mill outlook and also lessened chances of inventory losses. Manufacturers appear to have covered the bulk of urgent needs. Both dealers and mills are inclined to wait upon developments in the goods market. As mill buying is very restricted, quotations tend to sag. There is, however, immediate recovery on the appearance of business. Large quantities of old clip wools have moved outward to the mills in recent weeks. New Arizona original bag wools of 64s and fine qualities arriving in moderate quantities from the West, are fairly active. Choice wools of this type, consisting of bulk French combing with some strictly combing staple, are selling at prices in the range of 58 to 60c., clean.

Both in the West and in the East there is a slackening of the buying pace. Bids for wool in the West have been reduced in not a few instances. Independents are moving cautiously in the matter of acquiring new clip wools. The general situation does not seen sufficiently settled to warrant their going ahead freely in acquiring wool when they have to name a definite price, while the marketing organization offers an advance only, the real price to be set some months afterward when the wool is actually sold.

General wool manufacturing in March fell back about 6%, woolens falling back extensively while worsteds made a slight gain. Preparatory machinery on worsted production made a gain of 2.3% over February. Preparatory woolen machinery registered a loss of 9.8%. Consumption of wool for March showed a gain of 4.9%.

Topmakers and spinners in the eastern markets are occupied on old contracts, but meet comparatively little new business. Around 85c. is being asked for fine standard tops in oil with short French combing descriptions around 80c. Spinners of weaving yarns are trying to secure business by concessions, but buyers want to secure prices that are below cost in some mills.

The third series of London wool sales opened about as predicted, merinos in the grease off about 5% from closing prices of previous sale and crossbreds from 5 to 15% lower. The Continent was the chief support of the sale,

YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

American bought nothing. There is quite a definite confidence in foreign merino circles and little fear about current supplies not being readily absorbed. The future of crossbreds is not so well assured.

◆Woolen Raw Stock Makes Little Headway

CONSUMPTION of woolen wools, scoured and pulled, showed a decrease of 8.9% in March and woolen spindles were off almost 10%. There seems recently, however, to have been some pick-up among mills catering to the needs of the low-priced clothing field where suits for the fall and winter are slated on an $18.50 to $21.50 price level. This forecasts better business for reworks, rags and clips, it is believed.

Rag traders are getting accustomed to the absence of large sales to consuming mills, but are experiencing something of an offset to business in bulk by a larger number of small sales. Light hoods are expected to be in larger movement as the season progresses, being found suitable for blending with certain types of woolen wools. This rag is probably the most lively in the market and the price range is correspondingly wide. Serges and worsteds continue quiet, some graders accepting as low as 5½c. for blue serge free of flannels, with red serges attracting more attention.

While the wool waste market is far from active there is sufficient buying taking place to maintain prices on most sorts. The colored section of the market is steady with recent firmness in fine colored weaves maintained, average lots around 18c. and choice material around 22c. White spinning wastes furnish the main activity. Bradford replacement values are firm and on the whole somewhat higher than of an equivalent domestic grade. Choice fines, particularly 70s Bradford, are held at a firm 56-58c. Dealers could not import them and resell them profitably at less, based on current Bradford quotations.

Statistics relating to wool manufacturing in March are less favorable than expected, suggesting as they do a smaller amount of noils going into consumption and a slightly larger output. During April, however, the balance of news seems to indicate some comeback in woolen manufacturing. The general noil condition has, however, not been affected to any noticeable degree although April ended with prices less firm than at the beginning of the month. Medium to low noils are if anything firmer than the near-merino and merino qualities. Noils from Cape and Australian wools command firm prices.

◆Thrown Silk Sales Best This Year

APRIL was the most satisfactory month of the year in thrown silk. It was a better month than April, 1930, with a number of firms. The poundage sold did not differ materially from that of March, 1931, but was slightly larger in most instances. April was marked by steady buying of small lots rather than by placing of large contracts.

Selling houses report that day-to-day business makes it appear that conditions are far less active than when the totals for the month are seen. Prices show no decided firmness and await help in this respect from the raw material market. In view of the small margins on which throwsters are operating it is a natural development for them to predict that should demand continue at its present rate prices will harden.

The best influence on the situation has been the improvement in the hosiery markets. The strike among full-fashioned hosiery mills had an adverse effect upon throwsters. With the change, better demand from the hosiery trade has made its appearance. Broad-silk manufacturers are taking fair size quantities, but are refusing to order large quantities or far in advance.

Spun silk prices are as low as veterans in the trade can remember and it is stated that they are lower than at any previous time. Selling houses report that instead of a larger demand under this condition, the reverse has been true. Buyers are fearful of further decline. Margins left for spinners at present prices are small, complaint on this score being general.

◆Raw Silk In Better Demand

THE first week of May has seen a decided change in the demand for silk. April was quiet with most firms, but since the first of the present month trading has become active. Sellers find that many consumers let their supplies run so low that this improved demand is imperative simply to replenish depleted stocks.

At present there are more buyers in the market than at any time in more than a month and sellers are booking a fair business for forward deliveries, contracts running until the end of the present year being noted in instances. August to December deliveries in contracts for new season silk have been more numerous than at any time this year.

Stocks of silk in New York are not excessive, the total being within reasonable limits notwithstanding the lack of large demand. During April stocks went down even though consumption was limited during that month. Indications are that May will see an increase in stocks especially should the improved demand prove only a spurt. If this occurs there will be further softness in prices. This is what many are predicting. June and July contracts are being taken at a 10c. discount from prices that are asked for spot shipments.

After this period of possible weakness later in May, it is asserted foundation will be laid for firmness, based upon the better demand that is slowly but surely developing and upon the premise that prices are scraping the bottom.

Improvement in the full-fashioned strike situation is having little constructive effect upon the market. Silk firms believe that little business was lost by the strike.

The Silk Association of America, Inc., reports that imports of raw silk into the United States totaled 29,446 bales during April and deliveries to American mills 41,356 bales. Imports for the first 4 months of 1931 were 12.9% higher than for the corresponding time in 1930, while deliveries to mills were 3.5% higher. Raw silk in storage at the end of April totaled 35,497 bales compared with 53,704 in April, 1930. The amount of raw silk in transit at the end of the month is estimated at 24,800 bales.

◆Weavers Take Rayon In Large Volume

IF WE leave aside the question of how much money producers are making it could be said that business is as good as it has ever been. Larger producers report that trading in April, as has been true during the last three months, was such that production failed to keep abreast with orders. It is a problem to make deliveries of the wanted quality and deniers at present.

Seasonal slackness is not expected and certainly is not beginning to make its appearance. Demand has been good this week and equal to recent ones in volume.

Deniers used by weavers in making crepes are booming and manufacturers of rayon are unable to supply all the second quality filling yarn which these mills want. There is no difficulty about the warps of first quality. That is available in sufficient volume; but the 100 denier wanted for the filling is hard to locate and producers are wondering how they will be able to collect enough second quality when there is little demand for the same denier in first quality.

Style changes in women's clothing which have necessitated using much larger yardage, is an important factor

(Continued on page 53)

FABRIC MARKET REPORTS

TEXTILE WORLD ANALYST

◆Wool Goods Sales Volume Satisfactory

TRADING in wool goods is probably now setting the pace for the entire textile industry. Both women's and men's wear are selling, the latter merchandise for fall while most of fabrics moving in women's wear is concentrated in light woolen coatings and flannels, for summer wear. Prices show a firmer tone than has been apparent so far this year and there is practically no sales resistance from buyers as regards prices.

Men's wear houses have been doing such a satisfactory volume that they are rubbing their eyes, wondering if they will wake up and find it a dream. Houses handling all classes of goods report that business is good with them. Heretofore main interest was in higher and lower priced ranges, mainly the latter, but now activity is more general.

Oxfords have the call from buyers and indications are that the popularity for grays in the lightweight season will carry nearly through the heavyweight period. Blues are next in demand. Patterns are still the conservative type and nothing startling will be seen on the male next winter so far as current sales in the primary market indicate.

A few seasons ago there was a tendency for mills to turn out fabrics that showed little difference in weight between the heavy and light seasons, but there has been reaction back to the older habit of heavier goods for fall and winter. Current heavyweights feature 15 oz. goods and these are what buyers are specifying.

Distress selling of women's wear in light weights has come to an end and manufacturers are now in better shape so far as inventories are concerned than for many years. The new lines, as is generally agreed, are more attractive than any offered previously in the woolens for fall coatings.

Volume in the heavy fabrics is not apparent yet, but manufacturers are doing a good business in lighter weight goods used in summer or travel coats. Several mills making goods of this type to sell around $1.75 are sold ahead for several weeks. Summer coating sales are running well ahead of last year; velour coatings are also being taken in good volume for summer.

Rough coatings that sell around $2.25 a yard have been moving well and a number of mills which had planned to specialize in crepe type fabrics have changed over to take advantage of the popularity of the shaggy type goods. Duvetyns, velours, eponges, ratines and others of the same type have been fabrics in which best advance business has been seen.

Demand for these goods was excellent in the spring season and manufacturers are counting on a two season run for them. Indications are that mills will not be disappointed.

◆Print Cloth Sellers Disregard Statistics

WEAKER mills started the ball rolling a couple of weeks ago and a few large commission houses next joined the procession. This week selling has been general at prices which three weeks ago representative houses looked upon with horror. There has been no particular reason for the action of the market. Some weakness was to be expected in view of cotton touching a 15-year low point, but not the cutting that has been seen in cotton cloths.

Cuts in print cloths would mean 2c. to 3c. off in cotton and this is far from reality yet. It means that weak mills and selling houses have about ruined the price level for the time being; they have been helped in this by the raw material situation but even that is no excuse for what has taken place.

Saner houses have not given up hope and call attention to the very small increase in stocks which has occurred since the market in print cloths has been less active. The more constructive attitude among such firms is that sooner or later strong statistical position will be felt and the effect will be what has been predicted. It certainly can be stated that had stocks been excessive the situation would be far worse at present.

The only justification so far to drastic price-cutting has been that the houses that did this first have booked a considerable volume of business where there was little before.

Favoring the buyer is not all it is cracked up to be. Those who are taking deliveries now on 80-squares that were purchased not long ago at 7½c. see ½c. loss on every yard that is shipped to them. Much of the blame of such a loss is placed by them where it belongs.

Broadcloths have been little better than print cloths but yet there have been reports that a number of manufacturers are entering the broadcloth field that formerly were manufacturing print cloths. What the incentive was is not known. Margins are no better in most broadcloths than in the field they are leaving.

Twills have been selling as actively as any goods and sellers say that many of their mills have business for several weeks ahead, making spot merchandise especially strong. There is no profit in it, but mills are doing a fair to good volume in lines that are going into work clothes.

Although printers are not booking a large volume of orders at this time, indications are that fabrics used in making cheap dresses have not closed the season, but will be in demand as result of wash dress week the effects of which are expected to bring depletion of retailer stocks and new demand which will be passed back to the primary market.

◆Distress Broadsilks Are Less Numerous

WHILE price-cutting in broadsilks has been in evidence this week, there are indications that the peak in this has already been touched. From now on improvement is expected as buyers are showing preference for merchandise of a type which did not take part in the early price cutting.

It is quite a different thing for retailers to buy an odd lot of prints at some ridiculous figure and then sell them at a good profit than it is to book duplicate orders in prints. When duplicates are wanted, as is now the case, then the houses that sold regular lines at prices more nearly representing a fair level for the manufacturers, find business more active than the early price-cutters who now are unable to secure duplicates to offer their customers.

Houses which refused to join the procession of price-cutters are reaping their reward now.

One in this category reports that it is booking a satisfactory volume in prints which sell around $1.00 although it admits that the goods are forced to compete with merchandise that is being offered jobbers as low as 50c. Prints that sell at 65c. are no longer causing comment because of low price. In spite of this, houses selling the wanted goods, are securing much higher prices.

Summer fabrics in light colors with small designs are the types that are moving. Shantungs are fairly active and prices are steady in the face of a smaller volume of price-cutting than noted heretofore.

Taken as a whole the market presents a firmer tone than a month ago. Progress is still being impeded by stocks of unpopular fabrics which sellers are trying to force on an unwilling market. Formerly a low price moved almost any fabric but now buyers are becoming more difficult to please. They want the better designs and frequently find that to secure these they must go to an entirely different type of seller and, of course, must pay higher prices.

Houses that were most persistent sellers early this year needed money quickly, this being one of the most important factors in the market then. Conditions in this respect are distinctly improved and it is less of a buyer's market than two months ago.

KNIT GOODS MARKETS

TEXTILE WORLD ANALYST

◆More Talk of Swimsuit Shortage

BATHING-SUIT demand has sharpened once more, and both jobbers and retailers find difficulty in getting early shipment. Agents in the Worth Street market are refusing to promise shipment before early June. Prices of swimsuit lines are firm, with an upward trend. Stocks are low. Knitters say the call for novelty suits has slowed up production, as these suits take longer to manufacture.

Agents talk very cheerfully of outerwear situation. Swimsuit sales are ahead of this time last year, and many important retail groups have not yet placed their business; the indications point to at least a moderately tight market, so far as June shipments are concerned. The agents issue solemn warnings on this point, and while much of that may be discounted as salesmanship, there is no question but that a lively end-May demand will find swimsuits in a seller's market.

Spring sweaters move actively, the call being largely for sleeveless lines and also long sleeve ribbed pullovers. Orders are accepted on a two-week basis. Prices are steady. Stocks are low in mills and many retailers are pressing their sources for quick delivery. Heavyweight sweaters improved slightly but are still backward.

◆Fall Underwear Call Slackens

HEAVYWEIGHT underwear demand is still convalescing from the recent price cut; a few orders filter in here and there, but there is no real buying tone. Both retailers and jobbers are suspicious of the market and are waiting for prices to stabilize, before covering for fall needs. Certain ribbed underwear houses are in a fairly good position, as they wrote a fair part of their fall orders prior to the reduction. It is estimated that the market will continue sluggish for a couple of weeks; some agents do not expect fall underwear to pick up perceptibly before June.

The call for lightweight lines also weakened during the last few days, which was attributed to the recent cold weather. Mill men are not discouraged, however, as April was very active and a number of the chief firms have business on their books to keep them busy for a few weeks. Stocks are more plentiful than last week, due to the let-up in buying, but there is no pressure to move. Price concessions are reported sporadically, with knitters passing up orders in some cases, rather than sell below list. Rayons move steadily, but production of these lines has exceeded demand, and mills are underselling to effect quick turnover. In cottons, the best-selling line at present is running-pants, and some mills are sold ahead on these garments. Stocks of running-pants are light, and while buyers mostly want spot shipment, they are obliged to wait a week or ten days for delivery in most cases.

◆Hosiery Hesitant After Price Cut

THE cut in prices announced last week-end by the Berkshire Knitting Mills had the usual effect of slowing-up orders; hosiery buyers now regard the market with some hesitancy and are waiting to digest the new lists of the mills that followed Berkshire's lead. The cut came as somewhat of a surprise to the trade. Certain important mills in the South had cut prices, but the market as a whole had been gradually firming up for the last eight weeks. Curtailment of output and the involuntary shutdowns due to the Philadelphia strike served materially to reduce stocks. Most of the strengthening had been at the low-price end and in irregulars, but it had been pronounced enough to allow small advances in price by a few producers who enjoyed good business.

The new cut has changed the picture, for knitters who had been getting steady orders; these factors now find it difficult to move stocks, and they are resigned to a week or so of lull. Up to the moment of the reduction, hosiery market tone had been good. Full-fashioneds moved moderately well, with some of the low-priced lines selling at a premium and jobbers finding it hard to get spot shipment of certain irregulars. Fall business has begun to come in, and certain agents are writing fair-sized orders on their entire line of men's, women's and infants' hosiery. Anklets have been somewhat behind normal, but interest at that end is increasing and better business is looked for the latter part of the month.

Half-hose movement is uneven; recent bargain offerings seem to have cut the quantity of distress goods available, but prices are still uncertain and buyers fight for concessions. Knitters make some effort to resist the pressure, and a part of the trade holds steady. As a whole, however, men's lines are soft and business is on a price bases.

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Utica Knitting Company Keeps Up-to-Date

(Continued from page 21)

We make every possible effort to keep informed of new mechanical developments. We go to the textile shows in Philadelphia and Boston and view the new equipment and we keep in close touch with the companies furnishing the majority of our equipment. If they have anything new, they are quick to notify us. Our sales force is alert to pick up new ideas and they send us samples or information about improvements.

Then, too, we watch the advertisements and articles in the trade papers for slants on machinery progress; and if anything seems important to our field, we write for data. We must keep active in this whole line; we might lose out in some instances if we let the machinery manufacturer bear the entire burden of keeping our plant up to date. It is our policy to do everything possible to keep up on developments.

Before we place orders for equipment, however, we check with all our plants to make sure that no reserve equipment is available to meet the need. If such equipment does exist, and the plant can spare it, we transfer it to the mill where it is needed. This naturally is more economical than to buy new equipment.

As regards keeping track of equipment condition by means of details, I do not think this practicable. My experience leads me to believe that clerical people who would be in charge of such data would be apt to lack the technical understanding of what is behind the records. We prefer to trust our mechanics and foremen and those who are really informed as to the uses and developments of equipment and to rely on them to recommend action regarding disposal; such men are more likely to be right than a clerical force.

The same men also keep abreast of the mechanical trend and can suggest new equipment. In purchases, the quality of garment produced on the new machine is always considered. The production of a higher-quality garment is a big talking point in selling equipment to us, as we must give as good a garment at a lower price as our competitor or a better garment at a slight advance.

Referring back to our machine shop, there is one important division of its work that we did not mention; that is, the complete reconstruction of obsolete machines. We often buy parts and rebuild units entirely. This is more economical than to buy the new machines. A new machine might cost $300, whereas we can have our mechanic rebuild a machine for $40, which represents cost of parts. The mechanic does this in his spare time. We rebuild machines quite frequently; we buy a unit which is made obsolete while still new due to style or other developments; and by our own changes in the machine shop, requiring only the cost of parts, we convert it into a thoroughly new and up-to-date machine.

◆Kendall Co. Has Good First Quarter

THE Kendall Co., operating cotton mills in the North and South, reports for the first twelve weeks of 1931 net profit of $115,788 after depreciation, bond interest, taxes, and provision for dividends on preferred stock of subsidiaries in the hands of the public. For the same period in 1930 net profit was $33,074. The company's balance sheet as of March 21, 1931, shows current assets of $6,624,268 and current liabilities of $1,252,736, leaving net working capital of $5,371,532.

Goodall Worsted Loss

The Goodall Worsted Co., of Sanford, Me., manufacturers of "Palm Beach" cloth, reports for the year ended Dec. 31, 1930 a net loss, after Federal taxes, of $576,124, as compared with a net profit in the previous year of $226,680. The loss added to dividend payments of $225,000 and retrospective adjustments, items belonging to previous years, of $8,470 resulted in a net decline in surplus of $809,594.

The balance sheet at the close of the period shows current assets, irrespective of $967,083 in investments, of $2,974,528 and current liabilities of but $4,991 leaving a net quick of $2,969,537. A year ago current assets amounted to $4,489,862 and current liabilities, $5,529 leaving working capital of $4,484,333.

Fisher May Reorganize

Directors of the Fisher Mfg. Co., fancy cotton goods, Fisherville, Mass., have called a special meeting of stockholders for May 8 to act upon a reorganization plan involving payment of a dividend in liquidation of $60 per share, and the issuance of a share of stock in a new company for each share of the present stock. Directors state that after such a plan had been executed, the new corporation would have approximately $300,000 of net quick assets in addition to plant and machinery, which they believe would be adequate for carrying on the business.

Financial Briefs

Stockholders of Davol Mills, Fall River, Mass., voted this week to change the $1,500,000 capital stock of the company from $100 to no-par value. Surplus account showed a loss of $70,000 for the year, declining from $109,000 to $39,000.

Receivers L. R. Chamberlin and G. W. Summersby of the Boston Mfg. Co., Waltham, Mass., have been authorized by the Superior Court at Boston to pay a second dividend to creditors amounting to 8⅜%, and to pay each of themselves a further sum of $5,000 on account for services since last December. Creditors had already received 33⅓% in dividends.

Powdrell & Alexander, Inc., operating cotton mills at Danielson, Ballouville and Killingley, Conn., have declared a quarterly dividend on the common stock of 87½c. per share, payable May 15 to stock of record May 1, thereby re-establishing the stock on a $3.50 annual basis. Last January the quarterly rate was cut to 50c. per share. The usual quarterly preferred dividend of $1.75 per share was also declared, payable July 1 to stock of record June 15.

The Saltex Looms, Inc., Bridgeport, Conn., and the Shelton (Conn.) Looms of Sidney Blumenthal & Co., Inc., operated during the first quarter ending March 31 at a net loss of $59,088, after depreciation etc., as compared with $124,021 for the corresponding period of 1930.

All officers of Collins & Aikman Corp., Philadelphia and New York, were re-elected with the exception of C. S. Williams, a vice-president who had not been active in the management. At a meeting of the stockholders held in Wilmington, Del., May 4 all directors with the exception of Mr. Williams were re-elected.

Condensed figures from recent mill statements appear on page 63.

Boston Stock Auctions

The following sales of textile shares were made at auction, Wednesday April 29:

Shrs.	Mill	Par	Price	Chge.
25	Associated Textile	...	35–36½	....
18	Plymouth Cordage	100	59½–60	—8½
10	Pepperell	100	78½	—¾
20	Naumkeag	100	80	....
	$2,000 Aetna Mills, 7s 1937	...	67	....
	$1,000 Maverick Mills 1st mtg. 7s, April 15, 1943	...	71½	....
73	Total			

Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended May 5.

	High	Low	Last Sale	Net Change
Adams Millis	25¾	25½	25½	— ½
*American Thread pfd	3½	3½	3½	—
American Woolen	8½	7½	8½	+1
American Woolen pfd	32½	27	32½	+5½
*Assoc. Rayon pfd	57¾	57¼	57¼	— ½
Belding-Heminway	2¾	2½	2½	— ¼
Botany Mills, A	2	1⅞	2	+ ⅛
Cannon Mills	21½	20¾	20¾	+ ⅛
Century Ribbon	4	3½	4	+ ⅛
Collins & Aikman	12	10	12	+1½
Consolidated Textile	⅞	⅝	⅞	—
*Courtaulds, Ltd	8	7½	7½	— ½
Duplan Silk	12½	12½	12½	—
Gotham Hosiery	12½	10½	12½	+1½
Industrial Rayon	34	30¾	31½	—2¾
Kayser, Julius	14⅛	12¾	13½	+ ⅛
Kendall, pfd	57	56½	57	+1½
Mallinson	2¼	1½	1¾	— ⅛
*May Hosiery, pfd	16	16	16	—3½
*Mock Judson	4	4	4	—6
Mohawk Carpet	14	13	14	+1½
Munsingwear	20½	20⅛	20½	—2
Pacific Mills	19⅜	17¾	19½	—2
*Pepperell	79	79	79	—
Phoenix Hosiery	9½	9½	9½	— ¾
*Propper-McCallum	4	4	4	—
Real Silk Hosiery	16½	15	15½	—1½
*Tubize Chat B	7⅛	6½	7⅛	+ ⅛
United Piece Dye Works	26½	23½	23½	—1½

*Listed on Curb.

Fall River Mill Stocks

(G. M. Haffards & Co., Fall River)

	Bid	Asked
Algonquin Printing Co	275	..
Barnard Mfg. Co	8	..
Berkshire (com.)	7	12
Berkshire (pfd.)	30	40
Bourne Mills	14	..
Border City Mfg. Co	6	7
Charlton Mills	48	..
Cornell Mills	3	..
Davis Mills	..	..
Dovil Mills	2	6
Flint Mills	..	..
General Cotton	..	2
King Philip Mills	5	..
Laurel Lake Mills (com.)	..	5
Laurel Lake Mills (pfd.)	..	..
Luther Mfg. Co	..	85
Merchants Mfg. Co	..	..
Narragansett Mills	1	..
Pepperell Mfg	78	83
Pilgrim Mills	29	..
Richard Borden Mfg. Co	1	..
Sagamore Mfg. Co	..	..
Shove Mills	..	5
Stafford Mills	..	1
Stevens Mfg. Co	29	..
Union Cotton Mfg. Co	5	..
Wemtenoe Mills	..	1

New England Textile Stocks

Quotations at "Public Sale" are based on last sales at Boston Public Auctions and Boston Stock Exchange. Bid and Asked prices are latest quotations of dealers.

	Sale	Bid	Asked
Am. Mfg. Co., pfd	52	44	48
Amoskeag	9	...	...
Arlington	18	17	19
Associated Textile	36½	34	37
Bates	60	59	62
Berkshire, Associates, com.	12½	7	...
Berkshire Associates, pfd.	40½	30	...
Bigelow-Sanford, com.	25½	...	...
Boott Mills	120½	70	...
Edwards	80½	58	63
Esmond, pfd	98	95	99
Farr Alpaca	45	43	45
Hamilton Woolen	40	35	40
Hill	9	8	11
Indian Orchard	20½	16	20
Ludlow	107	110	113
Merrimack, com	35	25	...
Nashua, com	7½	6	8
Nashua, pfd	34½	31	35
Naumkeag	80	79	82
Newmarket	16½	24	27
Otis	45	45	50
Pacific	19	...	...
Pepperel	78½	77	80
Plymouth Cordage	60	58	62
York	8½	7	...

Rayon Market Report

(Continued from page 50)

in bringing to light the active demand from weavers for rayon. Weavers are the leading topic in the market and less comment is heard concerning the quantities and qualities being taken by the knitting trades. Hosiery deniers are not active but underwear numbers are being taken in volume, the total being large.

There are indications that substandard yarns are going to be a market factor for some time. Demand is strong and producers will have to meet it as long as current conditions continue. Those in the selling end assert that there is little chance of doing away with this undesirable practice until the business has received additional stabilizing influence through mergers, which have been rumored for some time.

It is interesting to note that the type of yarns which producers generally feel should be eliminated, the sub-standard, are the ones which are most active and hardest to get.

QUOTATIONS

at close of business, May 6, 1931
Prices cover average qualities unless otherwise stated

Cotton Goods

	May 6	April 29	May 7 1930
PRINT CLOTHS			
27 -in., 64x60, 7.60	3½c.	3½-3¾c.	4¼-4½c.
38½-in., 64x60, 5.35	4¼-5c.	5-5½c.	6¼-6½c.
39 -in., 68x72, 4.75	5½c.	6c.	7c.
39 -in., 72x76, 4.25	6½c.	6¾c.	8c.
39 -in., 80x80, 4.00	6¾c.	7c.	8¼-9c.
BROWN SHEETINGS			
36-in., 56x60, 4.00	5¼-5½c.	5¼c.	7½-7¾c.
36-in., 48x48, 3.00	6c.	6 c.	9 -9½c.
37-in., 48x48, 4.00	5c.	5-5¼c.	6¼c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70	6c.	6¼c.	7 -7½c.
36½-in., 64x60, 5.75	5c.	5¼c.	6¼-6½c.
MISCELLANEOUS			
Drills, 37-in., 3 yd.	6½c.	6¼-6½c.	9 c.
Denims, 2.20	12 c.	12 c.	15 c.
Tickings, 8 oz.	15½c.	15½c.	18-19½c.
Standard prints	7¼c.	7¼c.	9¼c.
Eastern staple ginghams, 27-in.	8 c.	8 c.	10 c.

Cotton Waste

Peeler comber	8¼- 8½
Peeler strips	7½- 8
Sak. comber	8 - 8¼
Choice willowed fly	4 - 5
Choice willowed picker	3 - 4
Sak. strips	10¼-11
Linters (mill run)	2½- 3½
White spooler (single)	7 - 7¼

Cotton Yarn

CARDED (Average Quality)

Double Carded 2c.—4c. higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.17½	22s	$0.21½
10s	.18	24s	.22½
12s	18 -.18½	26s	.23
16s	.19	30s	.24-.24½
20s	.20	40s ex.qual.	.35

TWO-PLY SKEINS AND TUBES

8s-2	$0.17½	26s-2	$0.23½
10s-2	17½-.18	30s-2	.24½-.25
12s-2	.18½	36s-2	.31
14s-2	.19	40s-2	.32½-.33
16s-2	.19½	40s-hi.brk.	.35
20s-2	.20 - .20½	50s-2	.41
24s-2	.22½	60s-2	.48

SINGLE WARPS

10s	$0.18	24s	$0.22½
12s	.18½	26s	.23½
14s	.19	30s	.25½- .26
16s	.19½	40s.ex.qual.	.36 - .37
20s	.20		

TWO-PLY WARPS

8s-2	$0.17½	24s-2	$0.23
10s-2	.18	26s-2	.24
12s-2	.18½	30s-2	.24½- .25
14s-2	.19 -.19½	40s-2 ordin.	.33
16s-2	.19½-.20	50s-2	.41
20s-2	.20 - .20½	60s-2	.48

8s-3 and 4-ply skeins and tubes; tinged, 16: white, 17-17½; waste, 15½-16

HOSIERY CONES (Frame Spun)

8s	$0.17	22s	$0.20½- .21
10s	.17 - 17½	24s	- .21½
12s	.17½-.18	26s	22 - .22½
14s	.18½	30s tying	.23½- .24
16s	.19	30s reg.	.25
18s	.19½	30s ex.qual.	.27 - .27½
20s	.20	40s	.33 - .34

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.31	60s-2	$0.48 - .49
30s-2	.35	70s-2	.59 - .60
36s-2	.37	80s-2	.71 - .73
40s-2	.38	90s-2	.87 - .89
50s-2	.44	100s-2	1.07 -1.09

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.32	60s-2	$0.50 - .52
30s-2	.36	70s-2	.60 - .62
36s-2	.38	80s-2	.72 - .74
40s-2	.40	90s-2	.88 - .89
50s-2	.45	100s-2	1.08 -1.10

SINGLES

12s	$0.26	30s	$0.34 - .34½
14s	.26½	38s	.37 - .38
16s	.27	40s	.38 - .39
18s	.27½	50s	.43 - .44
20s	.28	60s	.49 - .50
24s	.29	70s	.59 - .61
28s	.31½- .32½	80s	.70 - .72

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.49 - .50	90s-2	$1.28 -1.29
30s-2	.51 - .52	100s-2	1.58 -1.59
36s-2	.54 - .55	120s-2	1.98 -1.99
40s-2	.57 - .58	30s	.63
45s-2	.59 - .60	40s	.68
50s-2	.61 - .62	50s	.75
60s-2	.69 - .70	60s	.83
70s-2	.81 - .82	70s	.95
80s-2	.93 - .94	80s	1.15 -1.17

Cotton Prices and Statistics

FLUCTUATIONS OF FUTURES

	Closed April 30	For Week—High	For Week—Low	Closed May 6	Net Chge.
May	9.75	9.81	9.38	9.72	—.03
June	9.86	9.86	9.51	9.81	—.05
July	9.97	10.05	9.59	9.91	—.06
August	10.11	10.11	9.77	10.04	—.07
September	10.25	10.25	9.93	10.18	—.07
October	10.34	10.43	9.93	10.27	—.07
November	10.45	10.45	10.10	10.39	—.06
December	10.57	10.65	10.16	10.51	—.06
January	10.69	10.75	10.29	10.61	—.08
February	10.79	10.79	10.44	10.71	—.08
March	10.89	10.95	10.54	10.81	—.08
April					

SPOT FLUCTUATIONS FOR WEEK (Middling)

	New York	New Orleans	Liverpool
Thursday, April 30	9.75	9.52	5.41
Friday, May 1	9.50	9.25	5.46
Saturday, May 2	9.40	9.15	5.34
Monday, May 4	9.70	9.45	5.30
Tuesday, May 5	9.70	9.45	5.43
Wednesday, May 6	9.80	9.45	5.35

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, May 5		Change
May Sak.	15.45	+0.23
June uppers	11.18	—0.41

May-June Shipment c. i. f. Boston (Tariff not included)

Fully good fair Sak.	18.50
Fully good fair to good Uppers	13.90

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cents
Peruvian Tanguis Strict Middling	21
Peruvian Pima No. 1	20
Peruvian Moderate Rough	16
Peruvian Full Rough	21
China Tientsin No. 1	10½
India Rough	7 to 10
India Smooth	7 to 10

(By Bruns-Nordeman Co.)

BASIS MIDDLING

	Saturday, May 2	Saturday, April 25
10 markets average	8.92	9.54
Memphis	8.50	8.95

PREMIUM STAPLES

First Sales from Factors Tables at Memphis

Grade Strict Middling	Prices Steady
1⅛-in	11.75—12.00c.
1 3/16-in	13.00—13.25c.
1¼-in	17.60—17.75c.

CURRENT SALES

	For Week	Prev. Week	Week Before
Memphis total	7,417	7,466	9,681
F.o.b. included	6,231	6,224	6,756
10 markets	20,744	16,430	22,264

MEMPHIS RECEIPTS, SHIPMENTS, ETC.

	For Week	Last Year	Year Before
Net receipts	1,991	4,742	4,186
Gross receipts	8,050	17,542	14,473
Total since Aug. 1, net	626,689	915,883	834,665
Shipments	18,374	31,330	35,281
Total since Aug. 1	1,204,684	1,643,163	1,641,280
Total stock	216,499	287,868	165,675
Decrease for week	10,324	13,788	20,806
Unsold stock in hands of Memphis factors	21,764	43,094	.....
Decrease for week	310	*158	.....

*Increase.

AVERAGE PRICE MAY-JUNE SHIPMENT HARD WESTERN COTTON

F.o.b. New England

	Middling	St. Middling
1 3/16-in	12 -12½c.	12½-12¾c.
1⅛-in	12½-13c.	13½-13¾c.
1 3/16-in	14½-15½c.	15½-16c.
1¼-in	20 -21c.	22 -23c.

Basis on New York, July 9.81c.

SPOT FLUCTUATIONS AND STOCKS

Markets	Middling April 29	Middling May 6	Sales	Stocks This Week	Stocks Last Year
Galveston	9.75	9.70	3,899	555,154	237,981
New Orleans	9.68	9.45	3,654	728,813	419,038
Mobile	9.15	9.00	931	250,518	9,475
Savannah	9.44	9.26	1,371	360,015	37,889
Norfolk	9.75	9.69	1,366	80,579	47,988
New York	9.80	9.80	1,100	226,592	157,380
Augusta	9.31	9.25	1,888	81,348	70,267
Memphis	8.65	8.75	7,239	214,808	275,693
St. Louis	9.25	9.15	.....	5,982	10,536
Houston	9.70	9.60	3,513	990,232	681,724
Dallas	9.25	9.10	3,186	8,578	11,564

DIFFERENCES ON AND OFF MIDDLING

WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	.75†	1.00†	.85†	.75†	0.88†
S.G.M	.60†	.75†	.75†	.63†	.70†
G.M	.50†	.50†	.60†	.50†	.52†
S.M	.35†	.25†	.35†	.25†	.31†
S.L.M	.50*	.50*	.50*	.50*	.50*
L.M	1.15*	1.25*	1.25*	1.25*	1.24*
S.G.O.**	1.80*	1.80*	2.25*	1.75*	1.96*
G.O	2.45*	2.05*	3.00*	2.25*	2.60*
YELLOW TINGED					
G.M	.40*	.75*	.50*	.50*	0.54*
S.M	.65*	1.00*	1.00*	.75*	0.89*
M.**	1.40*	1.25*	1.50*	1.25*	1.42*
S.L.M	1.90*	1.75*	2.15*	2.00*	1.99*
L.M.**	2.65*	2.00*	2.75*	2.75*	2.67*
YELLOW STAINED					
G.M	1.50*	1.50*	1.5	1.25*	1.45
S.M.**	2.00*	2.00*	2.00*	2.00*	2.00
M.**	2.75*	2.50*	2.75*	2.75*	2.70
BLUE STAINED					
G M.**	1.50*	1.50*	1.50*	1.50*	1.50
S.M.**	2.00*	1.75*	2.00*	2.00*	1.98*
M.**	2.75*	2.25*	2.75*	2.75*	2.68*

**Grades not deliverable on contract. †On Middling *Off Middling.

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA (IN GREASE)

Fine delne..	$0.26 –$0.27	¾ blood.....	$0.22 –$0.23
Fine clthg ..	.22 – .23	½ blood.....	.21 – .22
¼ blood.....	.25 – .26		

TEXAS AND CALIFORNIA (CLEAN BASIS)

Texas, 12 months ..	$0.61 –$0.63
California, Northern	.51 – .53

PULLED—EASTERN (CLEAN BASIS)

A.A.	$0.68 –$0.70	B-Super...	$0.47 –$0.52
A-Super....	.55 – .58	C-Super...	.41 – .43

MONTANA, IDAHO AND WYOMING (CLEAN BASIS)

Staple fine	$0.63 –$0.65
Staple ¾ bld.	.58 – .60
Fine and fine medium	.58 – .60
¾ blood	.48 – .50
½ blood	.42 – .45

MOHAIR—DOMESTIC

Best carding	$0.23 –$0.25
Best combing	.31 – .33

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.16 –$0.19
Cape firsts	.18 – .20

FOREIGN CLOTHING AND COMBING (CLEAN BASIS IN BOND)

Australia:	
70s	$0.52 –$0.55
64s	.45 – .48
58s-60s	.41 – .43
(IN GREASE)	
Montevideo:	
58s-60s	$0.20 –$0.21
56s	.19 – .20
50s	.17 – .18
Buenos Aires:	
4s, 40-44s	$0.14 –$0.15
5s, 36-40s	.13 – .14

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.22 –$0.24
China: Combing No. 1	.13 – .14
China Filling Fleece	.12 – .14
Szechuen ass't	.12 – .14
Cordova	.14 – .15
Scotch black face	.15 – .17
East India: Kandahar	.17 – .19
Vicun'a	.23 – .25
Joria	.23 – .24

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.77½–0.80
2-24s 40s	– .85
2-26s 44s	.87½– .90
2-28s 46s	.92½– .95
2-30s 48s	– .95
2-32s 50s	.97½–1.02½
(Single yarns 5c. less than above)	
2-36s, 58s	$1.22½–1.25
2-40s, 60s	–1.32½
2-40s, 64s	1.35 –1.37½
2-50s, 66s	1.50 –1.52½
2-60s, 70s	1.82½–1.85

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.75 –0.77½
2-20s, 48s in oil	– .80
2-20s, 50s in oil	.80 – .82½
2-20s, 56s in oil	.92½– .95
2-20s, 60s in oil	–1.12½
2-20s, 64s in oil	1.20 –1.25
1-18s, 46s dyed	95 – .97½
1-18s, 48s dyed	97½–1.00
1-18s ,50s dyed	1.00 –1.02½

(Oil yarns 17½c. less)

FRENCH SYSTEM

1-20s, 58s	$1.07½–1.10
1-20s, 60s	1.12½–1.15
1-18s, 64s, dyed	1.37½–1.40
1-26s, 64s	1.17½–1.20
1-30s, 60s, Warp	1.22½–1.25
1-30s, 64s, Warp	1.25 –1.27½
2-30s, 64s, Fancy mixes	1.45 –1.47½
2-40s, 64s, Zephyrs	1.37½–1.40
1-50s, 66s	1.47½–1.52½
2-50s, 66s	1.55 –1.57½
1-60s, 70s	1.82½–1.85
2-60s, 70s	1.90 –1.95

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	$1.00 –1.02½
1-40s, 50-50-6 8s on cops	1.15 –1.17½
1-40s, 50-50-64s on cops	1.17½–1.20
1-40s, 50-50-64s Australian cops	1.20 –1.25

Underwear mixes, 3c. additional.
Solid color, 35c. additional.

◆

Tops and Noils

TOPS—BOSTON

Fine (64-66s)	$0.83–$0.85
Half-blood (60-62s)	.78– .80
High ¾ blood (58s)	.68– .70
Aver. ¾ blood (56s)	.63– .65
Low ¾ blood	.60– .62
High ½ blood (50s)	.55– .58
46s S. A. and N. Z.	.51– .55
44s S. A. and N. Z.	.50– .52
40s S. A. and N. Z.	.48– .50

TOPS—BRADFORD, ENG. (MAY 1)

Fine (70s)	27½d	¾ bld. (56s)	17 d
Fine (64s)	23 d	½ bld. (50s)	14½d
½ bld. (60s)	23 d	Cross-bred (46s)	12 d
¾ bld. (58s)	20 d		

NOILS—BOSTON

Fine	$0.43–$0.47	High ½ bld.	$0.33–$0.35
Half-bld.	.40– .42	Low noils	.31– .33
Aver. ¾ bld.	.35– .38	Medium colored	.25– .30
Fine colored	.33– .38		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.65 –$0.68
Lap, fine colored	.48 – .52
Hard ends, fine white	.52 – .55
Hard ends, ¾ blood white	.35 – .38
Hard ends, fine colored	.25 – .27
Hard ends, medium colored	.18 – .20
Card, fine white	.25 – .28
Burr, fine Carbonizing	.28 – .30

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, Coarse Light	$0.04½–$0.05
Merinos, Fine Dark	.03½– .04
Merinos, Fine Light	.10½– .11
Serges, Blue	.06 – .06½
Serges, Black	.06 – .07
Serges, Red	.08 – .09
Knit, White	.23 – .24
Knit, red	.10½– .11
Knit, Light Hoods	.11 – .12
Worsted, Light	.05 – .05½
Worsted, Blue	.06½– .07
Worsted, Black	.06½– .07

Silk Yarns

THROWN SILK (60 day basis)

	Nominal
Japan organzine, 2 thd. spec. gd. XX. sk. 85%	$3.85
Japan organzine, 2 thd. sp. crack. sk. 81%	3.45
Japan crepe, 3 thd. gd. XX bob. 83%	3.60
Japan crepe, 3 thd. sp. crack. bob. 81%	3.50
Japan crepe, 4 thd. crack bobbins, 78%	3.40
Japan grenadine, 4 thd. sp. grand singles, 87%	5.10
Japan grenadine 4 thd. 85%	4.80
Japan grenadine 3 thd. 90%	6.00
Canton crepe, 3 and 4 thd. ns. 14/16 on bobbins	2.30
Hosiery tram, 3 thd. Japan 90%	4.60
Hosiery tram, 5 thd. Japan, 85%	3.50
Hosiery tram, crack XX 78%	3.05

SPUN SILK YARNS (Terms: net 30)

40/2	$3.20	60/2	$3.40
50/2	3.30	62/1	2.35

Raw Silk

(60 Day Terms. Spot Goods.)

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 86/88%	$3.05	$2.35	$2.30
Special Grand, 85%	2.75	2.25	2.20
Grand XX, 83%	2.60	2.20	2.15
Special Crack, 81%	2.40	2.15	2.10
Crack XX, 78%	2.30	2.10	2.05
Extra Extra, 73%	2.20	....	....
Best Extra, 68%	2.15	....	....

Canton filature, new style, 14/16	$1.40
Canton filature, new style, 20/22	1.35
Tussah filature, 8 cocoon	1.00

NATIONAL RAW SILK EXCHANGE

	Close April 29	For the High	Week Low	Close May 5	Net Chge.
May	2.24	2.24	2.21	2.22	—.02
June	2.23	2.23	2.18	2.18	—.05
July	2.19	2.19	2.17	2.18	—.01
August	2.20	2.20	2.16	2.17	—.03
September	2.20	2.20	2.16	2.17	—.03
October	2.20	2.20	2.16	2.17	—.03
November	2.20	2.20	2.17	2.17	—.03
December	2.21	2.21	2.17	2.17	—.04

Total contracts, 829. Total number of bales, 8,290. Total approximate value, $2,535,841.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First	Second
50	14	$2.15	$1.95
75	18–30	1.35	1.25
100	18–40	1.10	1.00
125	36–50	1.00	.90
150	30	.70	.67
150	40	.75	.72
150	60	.85	.82
150	75–90	.85	.82
170	24–27	.75	.72
170	60	.85	.82
200	30	.75	.72
200	35–42	75	.72
300	42–62	.63	.60
450	54–60	.63	.60
600	72–96	.63	.60
900	100–144	.63	.60

Note: So-called "obsolete" yarns, 150/24 and 150/36, still available at 65c.

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	.85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	65	45	$2.00
25	24	2.85	80	60	1.70
30	24	2.60	100	75	1.35
40	30	2.40	120	90	1.22
52	30	2.20	150	112	1.10
			180	135	.97

ACETATE PROCESS

Denier	Price	Denier	Price
45	$2.25 2.75	120	$1.90
55	2.05–2.55	140	1.30
65	2.45	150	1.40–1.85
75	1.80–2.70	200	1.55
100	1.65–2.45	300	1.50

Rayon Waste

Open bleached waste	$0.13½–$0.14½
Open unbleached waste	.11
Bleached thread waste (mfs.)	.10
Bleached thread waste (misc.)	.07– .08
Colored thread waste	.05
Colored clips	.05

CONVERTED RAYON WASTE

Bleached tops	$0.30–0.33
Unbleached tops	.29– .30
Bleached noils	.12
Bleached garnetts	.13
Unbleached garnetts	.14
Colored garnetts	.11– .12

Silk Waste

Kibizzo Kakai Grand XX	$0.54
Kibizzo Kakai Triple Extra	.48
Frison Grand Double	.52½
Pierced Cocoons	.53

The American's New Merchandising

"Not Today but Tomorrow" was the headline in an American Woolen Co. advertisement this week. Although this heading applied specifically to the sport trouserings offered it also applies to the new policy of the large company itself —a definite and apparent result of its recent change in management.

It is indicative of throwing overboard the old idea that buyers would have to take what was shown at the official openings or do without. It means in a few words that the American is going to keep watch on the future and endeavor to supply the buyer with what he will need.

The advertisement offers a group of 13 oz. trouserings and calls attention to the decreasing demand for knickers and the steady increase in sales of sport trousers.

Finishers Less Active in April

The monthly statement of percentage of normal average capacity operated in the industry as announced by the National Association of Finishers of Cotton Fabrics shows a falling off in April from March. Details follow:

	April	
	1931 (4 weeks)	1930 (4 weeks)
White and Dyed combined	55 (44%* (56%†	56 (49%* (51%†
Fast Black	14	23
Logwood Black	28	34
Prints	73	81

*White: †Dyed

	March	
	1931 (4 weeks)	1930 ((5 weeks)
White and Dyed combined	61 (46%* (54%†	59 (46%* (54%†
Fast Black	19	18
Logwood Black	35	47
Prints	80	91

*White. †Dyed.

Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended May 2, based upon data compiled by the Department of Agriculture, follow:

	Week Ended May 2	Total to Date 1931	Total to Date 1930
Domestic	2,835,000	30,446,000	27,449,000
Foreign	174,000	19,837,000	32,996,000
Total	3,009,000	50,283,000	60,445,000
IMPORTS AT PRINCIPAL PORTS			
Boston	174,000	19,837,000	32,996,000
Philadelphia	1,261,000	14,495,000	24,037,000
New York	2,334,000	19,780,000	21,417,000
Total	3,769,000	54,112,000	78,450,000

Sports Silk Week Opens Auspiciously

This week saw the official opening of "1931 Sports Silk Event" when retail stores in many sections of the country featured sport silk fabrics on their counters and in their advertisements. R. H. Macy & Co., New York had a large announcement in last Sunday's New York *Times* and in other papers on Monday.

The first Macy announcement featured five qualities of shantung and one satin stripe shorting. Another department features shantung sports apparel and an entire window has been devoted to the display of these fabrics.

"1931 Sports Silk Event," as announced previously in these columns, has been organized under the direction of Cohn-Hall-Marx Co., New York. This firm has supplied plans and promotional material to Macy's and other retailers in various sections of the country.

Lowell Textile Alumni to Meet May 16

Final preparations are being made for the annual reunion of the Lowell Textile Institute Alumni Association to be held at the institute grounds, Lowell, Mass., on Saturday, May 16. The baseball game between the institute and the Massachusetts Agricultural College in the afternoon is one of the features of the program.

The technical sessions, under the general chairmanship of Charles H. Forsaith, superintendent of the Jackson Mills, Nashua, N. H., will be held immediately after lunch. The chemical meeting, under the sub-chairmanship of Harold W. Stiegler, of Cheney Bros., South Manchester, Conn., will discuss the subject, "Salaries and Prospects for Textile Chemists and Colorists." In the wool session, which will be presided over by Stanley H. Wheelock, president of Stanley Woolen Co., Uxbridge, Mass., the following papers are to be presented: "Proper Soaps and Oils in Finishing," by George A. Messenger; "Modern Methods in the Woolen Industry," by Ralph K. Hubbard; and "Carbonizing," by Royal P. White. Kenneth B. Cook, technical manager, Manville-Jenckes Co., Pawtucket, R. I., is in charge of the cotton meeting and promises an interesting program.

Upholstery Strike Agreement Reached

As indicated in these columns last week the upholstery strike that has been in effect among mills in Philadelphia has been practically settled. As many workers as the manufacturers could employ at present went back to their looms Monday, and as conditions in this trade improve the others will be given employment. Strike has been in effect since Feb. 2, 1931, resulting when mills placed a wage cut in effect.

The impartial arbitration body headed by members of the Industrial Research Department of the University of Pennsylvania had recommended that, while a complete survey of conditions in the business were being made, a 14% reduction in wages be accepted by both sides. This the workers rejected last February. This week, however, they agreed to accept the 14% cut after a meeting with representatives from 20 of the mills affected. The meeting was held at the offices of the Orinoka Mills.

Condemns Government Interference in Future Trading

Government interference with future trading and with speculation on futures markets was condemned in a resolution adopted May 5 by the Committee on Trading in Futures of the International Chamber of Commerce at the Washington meeting, but Stuart W. Cramer, president of Cramerton (N. C.) Mills, and Bernard J. Rothwell, of the Bay State Milling Co., Boston, succeeded after a battle of words in obtaining amendments which express the rebuke against Arthur M. Hyde, Secretary of Agriculture, in a somewhat milder tone than the draft prepared by the other members of the committee representing exchanges in this country and abroad.

Stevens Yarn Co. Business Is Being Liquidated

The Stevens Yarn Co., Inc., for many years one of the leading cotton yarn firms in New York, is liquidating its business and has filed notice of dissolution with the secretary of state.

R. L. Stevens, first vice-president of the company, stated that the cessation of business was due to the sudden death on March 7 of its president, C. H. Stevens. R. L. Stevens plans to retire from the yarn business after 36 years of activity in it. Frand Wald, former secretary and treasurer, retired from the company Jan. 31, 1931, and was succeeded by L. C. Dickson, who in turn resigned May 1, to become associated with John F. Street & Co. The latter have taken over most of the unfinished business of the Stevens Yarn Co., Inc., with the exception of its "Multiple Winding Department." This department with plant located at Conneaut, Ohio, has been sold to Waterman, Currier & Co., Inc., which will continue the business at the same location.

The Stevens Yarn Co., Inc., was organized Feb. 1, 1919. It was the outgrowth of a long business association between two brothers, "C. H." and "R. L." Stevens starting in 1893.

Incorrect Patent Listing

Granting of patent 1,799,446 was incorrectly described in our issue of April 25. This patent covers a tenter clip and was granted to William A. Stelling, Providence, R. I., and assigned to The Textile-Finishing Machinery Co., Providence, R. I.

Appoint McCampbell & Co. Selling Agents

Edna Mills Corp., Reidsville, N. C., have appointed McCampbell & Co., New York, as their exclusive selling agents. Edna Mfg. Corp., manufacture print cloths and three leaf twills.

Durene Exhibits at Lowell Institute

At the invitation of Gilbert R. Merrill, professor of textiles at Lowell (Mass.) Textile Institute, the Durene

Association of America, showed a display of cotton merchandise during Open House Day at the Institute, April 29.

Consumption of Wool Is Expanding

Consumption of wool by manufacturers reporting to the Department of Commerce was 40,373,044 lb. in March, 1931, comparing with 38,420,409 lb. the previous month, or with 37,195,057 lb., in March, 1930. Of the total quantity of wool used by manufacturers in March, 1931, 22,041,079 lb., or 61.7% was domestic wool and 13,655,947 lb., or 38.3% was foreign wool. The increased March, 1931, consumption is in line with expanding machinery activity data released by the same bureau.

Textile Foundation Meets to Gain Counsel and Opinion

On invitation by the board of directors of the Textile Foundation, a group of leading scientists, physicists, chemists and industrialists gathered for informal dinner and discussion, on May 4 at the Century Club, New York.

Franklin W. Hobbs, chairman of the board of directors, in leading the discussion said: "In June of last year the Foundation was created. Its resources yield a substantial annual income which is to be spent for 'scientific and economic research for the benefit of the textile industries and their allied branches.' Many proposals have been made, but the directors are anxious to have the best opinion and counsel available so that projects in a program of research may be launched which promise the most needed and fruitful results."

Asked if any definite recommendations were adopted, Chairman Hobbs stated that there was no intention to reach immediate conclusions, but rather from the frank and authoritative discussions develop ideas which after further analysis might be suggestive to the directors in discharging their duties.

Those attending the conference were:

H. L. Bailey, Wellington, Sears & Co.; W. D. Bancroft, Prof. of Physical Chemistry, Cornell University; M. T. Bogert, Prof. of Organic Chemistry, Columbia University; Cason J. Callaway, president, American Cotton Manufacturers Association; Karl T. Compton, president, Massachusetts Institute of Technology; Stuart W. Cramer, director and treasurer, The Textile Foundation; Chas. H. Herty, Consultant; Thos. B. Hill, president, The Silk Association of America; Franklin W. Hobbs, chairman, board of directors, The Textile Foundation; Chas. F. H. Johnson, Botany Worsted Mills; John A. Law, Saxon Mills; C. L. K. Mees, Director of Research, Eastman Kodak Co.; E. T. Pickard, Chief, Textile Division, Dept. of Commerce; Chas. Pinnell, Fred Butterfield & Co., Inc.; Hugh Stott Taylor, Prof. of Chemistry, Princeton University; Henry B. Thompson, director, The Textile Foundation; Chas. Scott Venable, Director of Research, The Viscose Co.; A. D. Whiteside, R. G. Dun & Co.; W. R. Whitney, Director of Research, General Electric Co.

Piedmont Section of A.A.T.C.C. Hears the Chemical Salesman's Side of the Story

"SELLING the Textile Mills" was the subject of an interesting address by R. E. Sumner, sales manager, the Calco Chemical Co., Inc., Bound Brook, N. J., before the spring meeting of the Piedmont Section of the American Association of Textile Chemists and Colorists, at the Poinsett Hotel, Greenville, S. C., May 2. More than 150 members and visitors were registered for the dinner and technical session which included a paper on "Printing Textile Fabrics," by James Purcell, Clearwater, S. C., and a symposium on the bleaching of cotton fabrics.

Emphasizing the fact that sales costs necessarily must be passed on to the consumer in the form of higher prices on the merchandise being sold, Mr. Sumner declared that the buyer would profit in the long run by cooperating to reduce the selling expenses of concerns forming his source of supply. An example of this type of cooperation is for the buyer to keep an accurate record of consumption of materials regularly purchased and to make this information available to all concerns that are considered logical sources of supply.

Because the average cost of a salesman's call in a territory where plants are widely scattered as in the South is between $10 and $20, Mr. Sumner called attention to the importance of helping the salesman to utilize his time to best advantage.

"At present in most cases," said Mr. Sumner, "there is a very long delay between the time when a buyer becomes interested in a product and the time when he actually starts putting it into production in his plant. The sales cycle in the case of technical goods such as dyestuffs is too long. Quicker tests would shorten it and would reflect in lower sales costs.

"Our industrial set-up is a competitive one and there is no way of working under such conditions without a duplication of expense. Were it not for this we could undoubtedly cut five million dollars from our merchandising bill for dyestuffs. With all of its faults the competitive form of industrial organization has justified itself. Certainly it has largely contributed to lower costs and raising our standards of living. However, we can still maintain a competitive situation and not pay an excessive price for it. For the last two decades, industry has been correcting this in what probably is the best way—namely, through the amalgamation of several smaller units into one large organization. Whenever this is well done, it results in savings not only in sales but in all other costs as well."

In his concluding remarks, Mr. Sumner placed particular emphasis upon the idea that purchasing agents and salesmen are the contact men of industry and have a more important contribution to make than merely attempting to buy at the lowest price or sell at the highest price. "Only by the closest kind of cooperation," the speaker insisted, "can these contact men make the savings to industry of which they are capable."

Samuel L. Hayes, Hartsville, S. C., chairman of the section, presided at the meeting and acted as toastmaster. Several matters of business were discussed, including the place of the annual meeting of the association in 1932, which took the form of a resolution protesting against the rotating schedule of annual meetings proposed by the parent association. The Piedmont Section voted to petition the association to hold its annual meeting with that group in 1932. Greensboro, N. C., and Charlotte, N. C., have already extended invitations.

R. M. Mitchell, of Proximity Print Works, Greensboro, N. C., former chairman of the division, was elected to serve on the nominating committee of the association.

Lively entertainment by the Henderson School of Dancing students from Charlotte, N. C., was enjoyed during and following the banquet. The local committee on arrangements consisted of George P. Feindel, of Union Bleachery, chairman; John C. Cosby, of Ciba Co., and Tom R. Johnson, of Southern Franklin Process Co.

Cotton Standards Conference to Meet in Washington, May 9

The fourth international biennial Universal Cotton Standards Conference for the purpose of approving copies of the Universal Cotton Standards for use by the United States Department of Agriculture and the arbitration committees of European cotton associations during the two-year period beginning Aug. 1, 1931, will convene in the conference room of the Bureau of Agricultural Economics, Washington, D. C., at 10 a.m., Saturday, May 9.

The conference is expected to extend into the week of May 11. There will be some discussions apart from the biennial meeting, regarding tentative standards for the preparation of long staple cotton, ginning methods and effects, and bale covering of American cotton.

The conference will be attended by representatives of nine leading cotton associations and exchanges of Europe and representatives of the United States Department of Agriculture and the American cotton industry. The meeting is provided for by agreements between the Secretary of Agriculture and the European associations under which the latter have adopted the Official Cotton Standards of the United States for American Upland cotton, known as the Universal Standards, as the basis of all their contracts for the purchases and sales of American cotton in which grades are specified.

Textile Distribution Methods Analyzed at Symposium of N. Y. Board of Trade

MODERN methods of textile distribution were subject to keen scrutiny and analyses by numerous outstanding figures in the textile industry, at a symposium-luncheon, held by the textile section of the New York Board of Trade, at the Commodore Hotel, New York, last week. The subject was considered variously from the viewpoint of the wholesaler, the retailer, the cutter-up and the fabric manufacturer. The principal speakers were: Robert G. Blumenthal, president, Commercial Factors Corp.; Flint Garrison, director-general of the Wholesale Dry Goods Institute; and S. Robert Glassford, president, Bliss Fabyan & Co.

Mr. Glassford stressed the idea that the producing groups—manufacturers, converters, finishers, dress manufacturers and retailers—are partners whose mutual aim is to satisfy the ultimate consumer.

He said, in part:

"ALL ARE PARTNERS"

"In this new age there exists only one real customer no matter how many steps there are and this one customer is the consumer. All the previously intermediate and independent transactions have become only processes in the production of the finished article for the benefit of the one customer we all have—the consumer.

"Idealized in textile terms it might work something like this: M is a manufacturer of gray cloth concentrating on and skilled in doing his job; C is a converter equally able in his field; F is a finisher equally able in his field; D is a dress manufacturer equally able in his field; R is a retailer equally able in his field.

"This makes a group of five processes requiring five differing qualities of skill and all five working for one real purpose and only one and that is the production of a dress that will please their one customer—a woman at a retail counter. If these five men are not partners under these conditions I don't know what they are.

"Continuing with this ideal, Mr. Retailer consults his supplier partner the dress manufacturer as to obtaining the best possible dress to sell for $9.75. The dress manufacturer mentally designs such a garment and consults with his supplier partner, the converter, as to cloth and pattern best fitted to carry out his idea. The converter mentally styles the agreed upon character of cloth and consults with his supplier and finishing partners, with the final result that all the brain power have been pooled and the cloth manufacturer is making not a piece of gray cloth but a $9.75 dress."

He cited "three essential" needs for the trade:

"First, the high contracting parties must be honestly convinced that the advantages of co-operation under the community of interest plan outweigh the supposed advantages of the open market plan on the buyer beware basis. The second essential is that each of any two of the contracting parties undertaking to work together has complete trust in the honesty and good faith of the other.

"The third, that each has complete confidence in the ability of the other to properly perform his part in the processes.

"This means inevitably doing a larger business with fewer people and carefully selecting the fewer people as we would our partners, which they are.

"Arrayed against the community of interest plan are the forces of opportunism, selfishness and greed, misplaced confidence in individual ability to beat the other fellow at his own game and hardening of the mental arteries. But something of the kind will survive. Each partner in the system of processes will retain his individual initiative, run and finance his own business and pay for the goods for which he contracts, but he will perform these functions in the light of foresight and understanding derived from acceptance of the theory of community of interest with the allied processes and the measure of his performance will be the measure of his success."

CHANGING BUYING HABITS

The importance of recognizing the changing trends in consumer buying habits, was emphasized by Mr. Blumenthal, who said the textile industry in the new era was as profitable as in the old. He cited the instance of a broad-silk manufacturer who does a profitable business selling to retailers solely through their New York representatives. He also told of a woolen manufacturer who does an annual business of $12,000,000 with men's wear cutters, and nets almost 10% on his sales.

He added that fabric manufacturers are able to cut expenses today, due to the growing centralization of the garment industry, which permits the curtailing of the sales force.

Mr. Flint's address was substantially a strong defense of the function of the wholesaler, and a detailed explanation of that factor's function in the industry. Answering critics in the trade, who claim that the "jobber is disappearing," Mr. Flint quoted statistics, indicating a decided growth of the number of jobbers in the country.

He added:

JOBBERS ON INCREASE

"Davidson's Directory of the Knit Goods Trade has been published since 1891, a period of 40 years. We took the trouble to count the number of 'knit goods wholesalers' listed in that directory in the first issue, then at 10-year intervals down to date. Here are the figures:

	1891	1901	1911	1920	1930
United States...	607	603	1188	1403	1815
New York City..	69	68	189	254	337

"In other words, instead of decreasing, knit goods wholesalers have increased in number nearly 200% in the United States and nearly 400% in the City of New York in the period covered by the records in this directory. Similar increases are disclosed in the number of knit goods wholesalers in all other important market centers in the United States."

Mr. Garrison said that a second opinion was that if you cut out the middleman you reduced the expense of getting goods into the retailer's hands. The facts, he found, do not substantiate the theory. He cited a report of the Department of Commerce showing that five hosiery mills selling to wholesalers had average selling and administrative expenses of 4.59%, while those for five mills selling direct averaged 26.29%.

The symposium was attended by more than 100 executives, who represented numerous leading firms in the silk and rayon industries and the wholesale and retail fields. Open discussion followed, in which many of those present participated.

Correct Placing of Knots Important in Twisting

(Continued from page 30)

on the bobbin—slack twisted, of course.

It is advisable to have some method of periodically checking the twist at the knots made in the twisting process. This can be done weekly, an entry being placed against each twister tender's name to show the condition of the knots. If the twist is correct, an "OK" can be written against the worker's name under the date of the week in which the test is made. When reeling is done in the same room as the twisting, a doff a week from each twister tender can be put on the reels and the skeins examined for the condition of the thread at the knots.

If the reeling is done in another room, the faulty work can be put on black cardboards with the knot at such a distance from one end that the badly twisted thread can be plainly seen. Some identifying symbol should be put on the cardboard so that the faults can be taken back to the worker responsible and the necessary steps taken to prevent their recurrence.

Changes in Personnel by American Woolen

Important changes in personnel have been announced by the American Woolen Co., New York. James A. Clark, head of Department 1, the staple worsted division of the company, who was made assistant selling agent a few years ago, resigned after a long association with the big company. It was also announced that Thomas C. Cantrell, who has been with the American for more than 30 years, identified with the executive offices in New York, first as secretary to the selling agent and more recently as assistant selling agent, has also resigned. Others whose resignations have been accepted were Eugene Valentine, with the company for 31 years; S. D. Keatley, William Mendel, H. O. Bird, J. E. Miller, William Weber, A. H. Scott, and B. H. Schmall. Details regarding successors were not made public.

New Silk Declines Forecast

Temporary declines in raw silk prices during the next three months due to uncertain conditions in the consuming industries, are forecast in the current bulletin of Standard Statistics Co., New York. The bulletin comments that "silk stocks are severely deflated both by comparison with the general market

and with their own previous levels, and the trade outlook is not sufficiently promising to warrant expectation of a substantial near term recovery."

Silk goods sales in the first quarter of 1931 exceeded the similar period in 1930 by volume, but an abrupt drop in dollar value hit the broad goods industry hard, the bulletin adds; it estimates that dollar sales for this period were almost 50% below 1930. Recently inventories have been reduced, bringing a more healthy internal condition but despite this, any substantial expansion in sales of silk fabrics must await improvement in general business conditions.

No Decision Yet on Chairman of Print Cloth Group

The announcement carried in a daily paper last Monday, that W. S. Nicholson, president of the Union Buffalo Mills, is to become chairman of the Print Cloth Group of the Cotton-Textile Institute is incorrect, according to statement by the Institute. For some months T. M. Marchant, president of the Victor-Monaghan group of mills, has been anxious to resign from the chairmanship of the Print Cloth Group because of the increasing demands on his time as southern vice-president of the Institute and as president of the South Carolina Association. The matter of a successor to Mr. Marchant came up for discussion at the print cloth meeting he'd in Greenville, April 14, at which time a committee was appointed to place in nomination a new chairman of the Print Cloth Group. It is understood that the nominating committee will make its report at the next meeting of the group during the course of the summer.

Foreign Trade Convention Attracts Textile Firms

A foreign trade convention is to be held in New York on May 27, 28 and 29. Thomas W. Lamont of J. P. Morgan & Co. is chairman of the general reception committee. It is expected that 1,500 exporters and importers will attend. Those already registered include Woodside Cotton Mills Co., Standard Textile Products Co., Turner Halsey Export Corp., DuPont Cellophane Co., The Cotton-Textile Institute, Pepperell Mfg. Co., General Cable Corp., and McGraw-Hill Publishing Co.

Cotton Festival Movement Spreads to Northwest

The Northwestern Cotton Festival will be held in Minneapolis, Minnesota, May 22, according to official announcement, which says that Governor and Mrs. Ibra C. Blackwood of South Carolina have been invited to attend the festival as guests of its promoters. The officials desire South Carolina's governor to lead the big parade throughout the city on the date of the festival. Governor Blackwood has the invitation under advisement.

Business News

U. S. Testing Co. Planning Enlargement

United States Testing Co., Inc., Hoboken, N. J., is considering an addition to its local plant on Park Ave., for increased capacity in testing, storage and distributing departments. It is proposed also to provide additional equipment.

Klipstein Moves to Empire State

E. C. Klipstein & Sons Co., Inc., has removed its executive offices to the Empire State Building at 34th St. and Fifth Ave., New York.

Merrimac Offices Located at Everett

The sales and general offices of the Merrimac Chemical Co., Inc., are now located at Everett, Mass.

Link-Belt Appoints William L. Hartley Detroit District Manager

Link-Belt Co., Chicago, announces the appointment of William L. Hartley as district sales manager in charge of the Detroit territory. Mr. Hartley has been in the employ of Link-Belt since 1915, having started in the engineering department, working in the contract, standard and estimating departments.

Retiring Commercial Factors Corp. Officer Host at Luncheon

Anton Schefer, who, it was recently announced, retired from active duties with Commercial Factors Corp., tendered a luncheon last week at the Manhattan Club to his former associates. Mr. Schefer has been vice-president and director of Commercial Factors Corp. since joining the organization at the time of the merger of Schefer, Schramm & Vogel in January, 1930. Among those present at the luncheon were Henry Ittleson, president of Commercial Investment Trust Corp., Thomas F. Vieter, chairman, board of directors of Commercial Factors Corp., Robert G. Blumenthal, president, and Thomas Smidt, chairman of executive committee. The following officers were also present: Johnfritz Achelis, Phillip Haberman, Frederic deRham, Francis T. Lyons, Benedict Erstein, James Gould, George L. Becker, I. Edwin Goldwasser and Konrad F. Braun.

R. & H. Elects New Officers

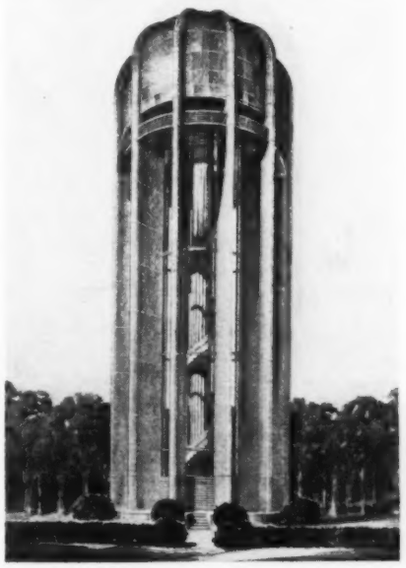
At the regular annual meeting of the directors of the Roessler & Hasslacher Chemical Co., Inc., in New York, April 27, the following officers were elected to serve for the ensuing year: Chairman of the Board, W. F. Harrington; President, Hector R. Carveth; Vice-President, Mortimer J. Brown; Vice-President and Secretary, Colby Dill; Vice-President, Milton Kutz; Vice-President, E. A. Rykenboer; Treasurer, Albert Frankel; Asst. Treasurer, August Heuser; Asst. Secretary, M. D. Fisher; Asst. Secretary, E. A. Howard; Asst. Secretary, J. Carlisle Swaim.

Several vacancies which occurred since the last annual meeting were filled. Both of the new vice-presidents, Dr. E. A. Rykenboer and Dr. M. J. Brown, are from Niagara Falls and will continue to make their headquarters in that city. Colby Dill, the newly elected secretary, will make his headquarters in New York City.

The Roessler & Hasslacher Chemical Co., Inc., early in 1930 was merged with the E. I. du Pont de Nemours & Co., Inc.

Awards in Elevated Water Tank Design Competition

The international competition, sponsored by the Chicago Bridge & Iron Works, Chicago, to develop aesthetic improvement in the character of elevated water tanks, was brought to a conclusion Monday, April 20 at a final meeting of the judges, at which time the following awards were made: 1st prize of $2,000, Eugene Voita, Chicago, Ill.; 2nd prize of $1,000, F. D. Chapman and C. M. Goldman, associated, Evanston, Ill.; 3rd prize of $500, Howard W. Vader, Chicago, Ill. The first prize design is illustrated. Five honorable mentions, carrying a prize of $100 each, were awarded. The jury of award consisted of R. W. Zimmerman, architect, chairman, Howard L. Cheney, president of Chicago chapter, American Institute of Architects, and George T. Horton, president, Chicago Bridge & Iron Works. There were 691 applications to participate, resulting in 152 final presentations of drawings.



Prize winning design for elevated water tank

G. A. Connors Now Vice-President in Charge of Truscon Purchasing

The Truscon Steel Co., Youngstown, Ohio, announces the appointment of Garrett A. Connors as vice-president and director of purchases. Mr. Connors has a record of 24 years' service as an executive in the production division of Truscon. He will maintain his headquarters in Youngstown, Ohio.

Tagliabue to Have Branch Office in Detroit

The C. J. Tagliabue Mfg. Co., Brooklyn, N. Y., has opened a branch sales office at 2832 East Grand Blvd., Detroit, Mich. H. W. Kerro is in charge.

Increased business in the Detroit section necessitated change from a jobbing connection to a direct sales branch with ample stock of all TAG indicating, recording and controlling instruments.

NEWS about MEN

✦ WILLIAM HENRY AYERS, has been appointed president of Ayers, Ltd., Lachutte (Que., Can.) succeeding his brother, JOHN T. AYRES, who died some weeks ago. C. TREMBLAY is now managing director and secretary-treasurer and MAJOR GEO. G. MITCHELL is managing director of sales. L. A. CHOWN is assistant to the managing director of sales and A. G. GILES is foreign sales director.

✦ CHARLES A. CANNON, president, Cannon Mills Co., Kannapolis, N. C., and WILL W. NEAL, president and treasurer, Marion (N. C.) Knitting Mills, Inc., were recently appointed members of the new State highway commission of North Carolina by Gov. O. Max Gardner.

✦ DR. HOMER GAGE, president of the Crompton & Knowles Loom Works, Worcester, Mass., and MRS. GAGE, arrived in New York on May 3 on the S.S. "France" from an extended visit to Paris.

✦ F. RAMSAY DEVEREUX, president of Oneita Knitting Mills, Utica, N. Y., has been elected to the board of directors of First Bank & Trust Co. of Utica. Mr. Devereux recently was elected a director of the Utica chamber of commerce.

✦ DR. W. SCHLEE and DR. KARL TEDE of J. P. Bemberg A.G., have arrived in this country on a visit to the plant of the American Bemberg Corp., at Elizabethton, Tenn.

✦ JOHN F. TINSLEY, vice-president and general manager of the Crompton & Knowles Loom Works, Worcester, Mass., represented Worcester Chamber of Commerce at the 19th annual meeting of the Chamber of Commerce of the United States at Atlantic City, N. J., last week. Mr. Tinsley was a speaker at the luncheon meeting on May 1 and made a plea for action rather than talk for the formulation and adoption of permanent measures to stabilize employment and prepare against future cycles of business depression.

✦ JOHN L. CRIST, of Calco Chemical Co., Inc., Charlotte, N. C., recently addressed students of the Clemson College (S. C.) Textile School on the subject of sulphur dyeing.

✦ T. H. BURKHARDT, together with the following, were last week elected directors of Burlington (N. C.) Mills, Inc.: W. S. COULTER, G. H. GINGHER, C. V. HOLT, J. SPENCER LOVE, J. L. LOVE, R. M. REID, M. B. SMITH, M. B. SMITH, JR., D. E. SELLERS and C. G. SOMERS.

✦ R. E. GAINES was elected chairman of the Greenwood County Cotton Growers Association at the annual meeting held at Greenwood, S. C. He succeeds Dr. W. A. BARNETTE. E. C. TURNER, JR., was chosen secretary.

✦ DR. H. B. MARSHALL, of the Ciba Co., New York, N. Y., gave special lectures and laboratory demonstrations on textile printing at the Clemson College (S. C.) Textile School, April 30, May 1-2.

✦ G. H. WHIGHAM, chairman of the board of directors of Canadian Celanese, Ltd., Drummondville (Que., Can.), has been appointed secretary of the company. A. O. DAWSON is president; J. P. KENNEDY, treasurer; WILLIAM HANSON, vice-president; and W. P. MACDOUGALL, general manager.

✦ WALTER M. BRICE, JR., of the Spartanburg, S. C., office of Draper Corp., Hopedale, Mass., was married to HELEN INGRAM, Opelika, Ala., in the latter city on April 30.

✦ KENNETH F. REMINGTON has joined American Enka Corp. to do sales promotional and fabric development work, succeeding CARL C. MATTMAN, JR., who recently resigned to take another position. Mr. Remington formerly was with Clinton V. S. Remington, cotton cloth brokers, of Fall River, later with Remington & Webster, New York, and the Hunter Mfg. & Commission Co. He is a graduate of the Bradford Durfee Textile School.

✦ HENRY C. GREENLAW, agent of Bates Mfg. Co., Lewiston, Me., and former agent of Nashua Mfg. Co., Lowell, Mass., returned May 2 from a three months' tour of textile centers in England and France.

✦ W. H. ENTWISTLE, Rockingham, N. C., general manager of the Entwistle Mfg. Co. has been nominated for re-election to the board of aldermen for that city.

✦ L. F. STOCKTON, general manager of the Warrensburg (N. Y.) Woolen Co., Inc., is among the organizers and a charter member of a newly organized chamber of commerce at that place.

✦ W. H. GIBSON, JR., general manager of Mansfield Mills, Inc., and Jennings Cotton Mills, Inc., Lumberton, N. C., was elected vice-president of the Lumberton Rotary Club.

✦ T. J. FOLEY has succeeded JAMES PURCELL as resident manager of the Clearwater (S. C.) Mfg. Co., finishing plant of United Merchants & Manufacturers, Inc.

✦ J. H. REANEY, general manager of Union Mills, Inc., St. Johnsville, N. Y., has been chosen a director of the newly formed chamber of commerce in that village.

✦ B. K. GUNN has been appointed assistant general manager of Penmans, Ltd., Paris (Ont., Can.) succeeding H. W. LUNDY, who was recently appointed general manager. Mr. Gunn was for some years superintendent of the company's mill at Almonte, Ont.

✦ CHARLES J. PREWETT, Cordova, Ala., was recently awarded the medal offered annually by the Textile Operating Executives of Georgia to the most proficient student completing the two year special textile course at Georgia School of Technology, Atlanta, Ga.

✦ J. C. COWAN, JR., secretary and superintendent, Stonecutter Mills Co., Spindale, N. C., has resigned to accept a position as assistant general superintendent of the group of mills headed by J. Spencer Love, Burlington, N. C., including the Alamance Weaving Co., Burlington Mills, Inc., Holt, Love & Smith, Inc., North Carolina Silk Mills, Inc., Piedmont Weavers, Inc., of Burlington; Puritan Weaving Co., Fayetteville, N. C., and The Pinehurst Silk Mills, Inc., Hemp, N. C. Mr. Cowan has been connected with Stonecutter Mills Co., since its organization in 1921.

✦ R. V. ALEXANDER has entered upon his new duties as superintendent of the weaving department of Cartex Mills, Inc., Salisbury, N. C., formerly Vance Cotton Mills.

✦ J. W. BOST, superintendent, Grace Cotton Mill Co., Rutherfordton, N. C., has been named superintendent of Stonecutter Mills Co., Spindale, N. C., to succeed J. C. COWAN, JR., who recently resigned to accept another position. R. R. FLACK, assistant treasurer, Grace Cotton Mill Co., will act as superintendent in addition to his other duties.

✦ N. A. GREGG, formerly superintendent of Stonecutter Mills Co., Spindale, N. C., has been appointed a director of the Federal employment service in North Carolina.

✦ W. V. KIRKLAND is superintendent of Corinth (Miss.) Hosiery Co., Inc., plant, which was opened last week for inspection.

Textile Calendar

Lowell Textile Institute Alumni Day, Lowell, Mass., May 16.

Chattanooga Yarn Association, Annual Golf Tournament and Outing, Chattanooga (Tenn.) Golf & Country Club, May 21 and 22, 1931.

American Society of Mechanical Engineering (including Textile Section), general meeting. Hartford, Conn., June 1 to 3, 1931.

Philadelphia Textile School, Alumni Business Meeting, Philadelphia, June 4; Annual "Cruise" and Banquet, June 5, 1931.

Southern Textile Association, Annual Meeting, Isle of Palms Hotel, Isle of Palms, Charleston, S. C., June 12 to 13, 1931.

The Cotton Manufacturers Association of North Carolina, Twenty-fifth Annual Convention, Sedgefield Inn, Greensboro, N. C., June 19 to 20, 1931.

American Society for Testing Materials, Annual Meeting, Hotel Stevens, Chicago, June 22 to 26, 1931.

Chicago Yarn Men's Circle, Annual Golf Tournament, Nippersink Lodge, Genoa City, Wis., June 24 and 25, 1931.

American Association of Textile Chemists and Colorists, Annual Meeting, Boston, Mass., Dec. 4 and 5, 1931.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932.

✦ A. P. RICHIE is now superintendent of Trenton Cotton Mills, Gastonia, N. C.

✦ WILLIAM V. HANKE, for 13 years with the Orr Felt & Blanket Co., Piqua, Ohio, and recently its superintendent, ended his association with the company on April 30. The company reports no arrangements yet made for his successor. Mr. Hanke has no plans for the immediate future.

✦ GEORGE F. SHIPP, formerly superintendent of the Wilson (N. C.) Cotton Mills Co. was recently appointed to a similar position at the Caromount Mills, Inc., Rocky Mount, N. C., instead of overseer of weaving, as was reported by error.

✦ R. ARTHUR SPAUGH, superintendent of Arista Mills Co., has been elected president of the Rotary Club, of Winston-Salem, N. C., succeeding THURMOND CHATHAM, president of Chatham Mfg. Co., who retires July 1.

✦ ANDREW B. WALLS has resigned as superintendent of Wyandotte Worsted Mills at Pittsfield, Mass., to become a supervisor of mills in Maine, New Hampshire and Vermont of the American Woolen Co., with which he was formerly connected for many years.

Samuel L. Hayes, resident manager, Hartsville Print & Dye Works, and chairman of the Piedmont Section of the American Association of Textile Chemists and Colorists presided at Greenville meeting, May 2.

✦ J. E. EATON has resigned as chief engineer at the Palmer (Mass.) Works of Wickwire Spencer Steel Co., to engage in business in Groton, Conn. GEORGE W. TERRY, Springfield, Mass., will succeed him.

✦ W. V. JONES, formerly head of the carding and spinning department of the Wilson (N. C.) Cotton Mills, has accepted a position with Johnson & Johnson, at New Brunswick, N. J.

✦ HERBERT F. RYAN, employment manager of the Hamilton Woolen Co., Southbridge, Mass., has been re-elected president and treasurer of the Hamilton Club of the plant. J. F. GABLE, general manager, was elected a director.

✦ ROY L. WOOD, superintendent, Whitmire (S. C.) plant of Aragon-Baldwin Cotton Mills, has been appointed superintendent of Watts Mills, Laurens, S. C.

✦ W. A. VAN TINE has resigned as foreman of the finishing department of the Ford Mfg. Co., Waterford, N. Y.

✦ PERCY MARRIOTT, formerly with the Ashland Silk Corp., Jewett City, Conn., has been appointed overseer of weaving at the Lorraine Mfg. Co., Pawtucket, R. I.

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Obituary

Thomas B. Kay

Thomas B. Kay, State Treasurer of Oregon and one of the most widely known textile men in the West, died at his home in Salem, Oregon, April 29, after a few hours illness. He was stricken while attending a meeting of the State board of control and fell as he stood by the desk of Governor Meier. His death was a distinct shock to the entire State with which his interests had been so closely allied for many years. The newspaper press throughout Oregon gave editorial prominence and tribute to this outstanding citizen. Mr. Kay was born in Trenton, N. J., Feb. 28, 1864. His father was a woolen mill manufacturer and in the fall of 1863 went to Oregon, locating in Salem where he was employed in the first woolen mill established in Oregon. In the summer of 1864 he was joined by his wife, son and daughter. Mr. Kay, after being associated with several mercantile enterprises until about 1894, went to Salem and became associated as assistant manager of his father's mill, the Thomas B. Kay Woolen Mills, with which he continued to be connected until the time of his death. He was also a director of the Miles Linen Mills, of Salem, and president of the Oregon Linen Mills Inc., and has been a prime mover in flax development in the State since its inception. He also took over the Eugene Woolen Mills and reorganized it for effective production, remaining as an associate of that company for six years. Mr. Kay had served his State in the legislature and had been elected to four terms as State Treasurer. He was member of several fraternal orders and interested in charitable and educational organizations.

Luther M. McBee, Jr.

Luther M. McBee, Jr., Greenville, S. C., purchasing agent for more than 30 textile mills in South Carolina and Georgia, died at his home May 3 following an illness of several months. He was born in Greenville, Nov. 12, 1891, and attended the public schools of that city and the Furman Fitting School. His business career began with a partnership in the Gower-McBee Electric Co., which was dissolved upon the country's entrance into the World War. Mr. McBee enlisted in the 30th Division, was later transferred to the 27th Division, and participated in several major engagements at the front. Following the war, he became purchasing agent for several large groups of southern mills with offices in the Woodside Building. He was active in Y. M. C. A. work, having served as president of the Greenville unit, and was for two terms a member of the National Council of the Y. M. C. A. He is survived by his wife, Mrs. Floride Smith McBee, and two children; Luther M., 3rd, and Floride Smith McBee. He is survived also by his parents, Mr. and Mrs. Alex McBee, Sr., two brothers and a sister.

William McCulloch

William McCulloch, president of the Warren Woolen Co., Stafford Springs, Conn., died at the Hartford (Conn.) Hospital, on April 26, after a short illness. He was born in Alva, Scotland, on Oct. 19, 1852. He had been engaged in the Scotch woolen industry for about 25 years when he was appointed manager of the Paton Mfg. Co., Ltd., Sherbrooke, Que., Can., in 1898. He was appointed superintendent of the Warren Woolen Co. in 1910, and was elected president in January, 1929. He is survived by two daughters and two sons.

Louis F. Grebe

Louis F. Grebe, president of Stony Creek Mills, of Louis Kraemer & Co., Reading, Pa., died April 29 at the age of 66 years. He was a prominent business man and for some time had been active in Democratic party politics. Mr. Grebe was a native of Manayunk, Pa., but went to Reading 40 years ago where he had since been associated with the company mentioned above. He is survived by his widow and two children; also a sister, who is wife of Ferdinand Thun of Wyomissing Industries, Inc.

William H. Moyer

William H. Moyer, aged 89 years, died suddenly at his home in Ephrata, Pa., April 28. He is survived by a son, Walter W. Moyer, underwear manufacturer with whom Mr. Moyer was associated in various capacities.

E. E. Rushin

E. E. Rushin, formerly connected with the Hightower mills at Thomaston, Ga., but more recently an official of the Consolidated Textile Corp.'s plant at Lynchburg, Va., died last week in that city.

Jacob Sattler

Jacob Sattler, aged 76 years, president of the Milwaukee (Wis.) Knitting Co., was found dead in bed early on the morning of April 23 in his apartment at a Milwaukee hotel. Mr. Sattler had been active in his business until the day before his death.

Daniel A. Overbey

Daniel A. Overbey, aged 75 years, vice-president of the Danville Knitting Mills, and a director of the Riverside & Dan River Cotton Mills, Inc., died at his home in Danville, Va., on April 25.

Alfred E. Harris

Alfred E. Harris, former assistant manager of the Cranska Thread Co., Worcester, Mass., died at his home in East Douglas, Mass., on April 16, aged 71 years.

NEWS about MILLS

Cotton

***Southern Mfg. Co.,** Athens, Ga., which went into bankruptcy Jan. 17, and which was valued at $1,631,617.00, unless creditors object, will be sold to the highest bidder before May 26 in the United States District Court. A meeting of creditors is to be held on date set for the sale to consider its disposal.

Exposition Cotton Mills, Atlanta, Ga., are progressing rapidly with the revamping and improvement work started several weeks ago. The humidifying equipment is being supplied by the American Moistening Co. and the electrical work is being done by J. M. Clayton. Among the new equipment being installed, are pickers, slubbers, seven intermediates, drawing frames and three slashers. R. F. Goodroe, of Gastonia, N. C., is in charge of the moving and erection work at the plant.

Pepperell Mfg. Co., Lindale, Ga., has recently placed order through the Carolina Specialty Co., Charlotte, N. C., for three Hermas shearing machines and three Hermas vertical brushing machines with the new V-belt drive.

Berkshire Fine Spinning Associates, Inc., Adams, Mass., resumed operations May 4 in their main mill and the No. 4 Berkshire Mill. The other three units employing 1,000 will be operated as soon as orders warrant. The workers return with the understanding that conditions of work will be the same as preceded the two weeks shutdown.

Shove Mills, Fall River, Mass., have resumed production at their No. 2 mill at Tiverton, following a recent fire at the plant. The plant was closed down for about a day to clean and make necessary equipment repairs

Fall River, Mass. Mills No. 1, 2, 3, 4 and 5 of **American Printing Co.** are now in operation, employing about 2,000 people; **Narragansett Mills** have reopened, and the mills of **Berkshire Fine Spinning Associates** are operating at capacity on a full schedule.

Fisher Mfg. Co., Fisherville, Mass., has called a special stockholders' meeting to be held at its Boston office on May 8, to act upon a reorganization plan involving payment of a dividend in liquidation of $60 a share, and the issuance of a share of stock in a new corporation for each and every share of the present stock. The new corporation will have approximately $300,000 of net quick assets to start business with. The company is 50 years old this year.

Naumkeag Steam Cotton Co., Salem, Mass., has adopted a five-day week schedule at its local mill, replacing a five and one-half-day week, and has suspended night operations until further notice. The change is expected to continue for a number of weeks.

Ford Motor Co., Dearborn, Mich., has recently taken over former plant of the United States Pressed Steel Co., Ypsilanti, Mich., and will use at early date for new textile mill for manufacture of automobile fabrics for Ford automobiles. Plant will be dismantled at an early date, remodeled and equipped for new line of production.

**Indicates previous mention of project.*

Walcott & Campbell Spinning Mills, New York Mills, N. Y., have been leased by the Air Bed Corp., of New York, which plans to start operations in July with about 200 hands. The property was recently purchased by a Boston concern after being idle for several years.

Hartsell Mills Co., Concord, N. C.—Work is progressing on the extension being built to the weaving department of the plant. Houses in the mill village are being repainted and the streets are being improved.

Taylorsville (N. C.) Cotton Mill, a 7,000 spindle double carded yarn plant which has been idle for several months, was recently purchased by A. B. Carter, Gastonia, N. C., treasurer of Carter Mills, Inc., and may operate as **Carter Mills No. 2.** The plant is to start work June 1. L. L. Hurley, of Gastonia, will be superintendent of the Taylorsville plant.

Lorraine Mfg. Co., Westerly, R. I., has reopened its plant with 50 employees.

F. W. Poe Mfg. Co., Greenville, S. C., has recently installed a Johnson rayon warp sizing machine, purchased through Carolina Specialty Co., of Charlotte, N. C.

Wool

Central Worsted Co., Inc., Central Village, Conn., will be reopened by E. C. Mowry, Providence, R. I. J. C. Cowen is in charge of the organization. New plant equipment will be installed, including automatic looms for the manufacture of high class worsteds.

Fabyan Woolen Co., Medway, Mass., is recalling former employees and it is expected all department will shortly be operating full-time again with some night work in addition.

Waterman Worsted Mills, Inc., which recently acquired the **Devonshire Mills** buildings at Goffs Falls, N. H., are manufacturing worsted material for men's wear, with 125 employees on a full-time schedule and one section of 22 looms running 24 hours.

Bigelow-Sanford Carpet Co., Amsterdam, N. Y., is running on a full daytime production schedule and making improvements to a unit on Prospect St. for the purpose of providing better manufacturing facilities.

Artloom Rug Mills, Philadelphia, Pa., have settled differences with weavers, after a strike of about five months duration, and production in the weaving department has been resumed.

Weybossett Mills (American Woolen Co.), Providence, R. I., for years conducted as a cotton and woolen mill, will soon give way to a jewelry plant. The property was recently acquired by the Welsh Mfg. Co., and is now being renovated and prepared for the new business.

Arthur G. Jones Woolen Mills Corp.'s (Winchester, Va.) properties will be sold at auction May 9 by John M. Steck, of Winchester, trustee in bankruptcy. Several acres of land, three brick and steel buildings, raw materials, finished cloth and woolen machinery are included in the property.

St. George de Beauce (Que., Can.) Woolen Mills, Ltd., have not been purchased by Henry Hamer & Sons, Ltd., Ravensthorpe, near Dewsbury, Eng., but agreement has been made whereby two members of Henry Hamer & Sons, Ltd., are joining the board of directors of St. George Woolen Mills, Ltd. New machinery and skilled employees are being sent out from England, for the purpose of producing in the Quebec mill the lines of overcoatings similar to those made by Henry Hamer & Sons.

Knit

Wayne Knitting Mills, Fort Wayne, Ind., after a lapse of several weeks have started operations, it is announced. Only a small force is employed, however, but the management expects to increase the employees according to the business.

Harris Silk Hosiery Co., Springfield, Mass., has filed notice of intention to operate in New York, under its Massachusetts charter, with capital of $400,000.

New Hampshire Mills, Inc., Manchester, N. H., knitted materials for sportswear and bathing suits, have taken on a night shift of 40 additional employees and expect to increase their output of bathing suits by one-third, adding other employees as production warrants.

Westmont, N. J.—William Brown, secretary and treasurer of Henry Brown & Sons Co., Philadelphia, Pa., is equipping a full-fashioned hosiery mill here. It is understood that the knitting equipment will consist of six Reiner-Einsiedel single-unit machines.

***Princeton Rayons, Inc.,** manufacturers of knit rayons, with plants in Brooklyn, N. Y., and Petersburg, Va., plan for removal of their manufacturing operations to Scranton, Pa. A site has been acquired in the Diamond Flats section upon which it is planned to erect a modern one-story textile manufacturing plant. The new plant will be 142x700 ft. and provide approximately 100,000 sq.ft. of floor space. Upward of 1,000

will be employed when the plant begins operations late this summer. Herbert Kallman is vice-president and production manager.

Woodlawn Knitting Mills, Inc., Buffalo, N. Y., have been formed to acquire the property of the **Mitchell Knitting Mills, Inc.**, 799-827 Woodlawn Ave., either under a long term lease or through mortgage foreclosure proceedings instituted by the Manufacturers & Traders Trust Co., which has a first mortgage of $200,000 on the plant and equipment.

Velvet-Knit Corp., Oswego, N. Y., has closed negotiations for taking over the A. J. Tooley mill in Baldwinsville, N. Y., and will take possession about June 1. The company makes specially treated soft knitted material used as polishing cloths and announced that more room is needed which was not available in the Oswego plant. Charles F. L. Freeling and Harry Hull, of the Velvet-Knit Corp. completed the deal for the location of the plant in Baldwinsville.

Hoover Hosiery Co., Concord, N. C., is just starting the erection of another building, which will give room to double the present capacity. All of the machinery on which installation was started a number of months ago has been erected and is now in full operation. This plant is operating on a full day and night schedule, and has business on hand to continue on this schedule for some time.

Martz Knitting Co., Philadelphia, Pa. Following recent involuntary petition in bankruptcy against this company, L. Leroy Deininger is acting as referee.

J. F. Bast & Sons, Inc., Schuylkill Haven, Pa., knitting department has put on a night shift, because of a heavy volume of orders.

Cadet Hosiery Co., Columbia, Tenn. Clark Hutton, Nashville, Tenn., ancillary receiver for this company, is arranging for the sale of the local mills. An offer has been received for the property, it is stated, with view to taking over the mill and resuming operations in about two months.

Walter Fred Hosiery Mills, Inc., Nashville, Tenn., announce they have purchased some machines equipped for making the new style net hosiery. The plant is operating on a 24-hr. a day schedule.

Bear Brand Hosiery Co., Beaver Dam, Wis., has awarded a general contract to the Hutter Construction Co., Fond du Lac, Wis., for a one-story addition to power plant at local mill, 20x40 ft., for increased capacity.

Abercrombie Knitting Mills Co., Toronto (Ont., Can.), located at 317 Adelaide St. W., has been reorganized and will operate in future under the name of **Abercrombie Knitting Mills, Ltd.** The new officers will be as follows: A. A. Abercrombie, president; W. B. McCullough, vice-pres.; and J. A. Griffiths, secretary-treasurer.

Silk

E. M. H. Rayon & Silk Weavers, Burlington, N. C., which was recently organized, is reported to have purchased 120 2x1 silk looms from Crompton & Knowles Loom Works, Worcester, Mass.

Southern Silk Mills, Inc., Kernersville, N. C., have recently purchased a five cylinder Johnson rayon warp sizing machine through the Carolina Specialty Co., Charlotte, N. C.

Winona Silk Co., Mountainville, Pa. John G. Diefenderfer has been appointed referee in bankruptcy for this company, following filing of a voluntary petition in bankruptcy. The liabilities are stated at $203,811, and assets, $26,224.

Narrow Fabric Weaving & Dyeing, Ltd., Galt (Ont., Can.), will erect a 60x60 ft. addition to its mill in order to provide space for more machinery.

Finishing

Velveray Corp. of America, Fall River, Mass., silk printing, has rented an additional 20,000 ft. of space.

Passaic (N. J.) Piece Dye Works are awaiting authority from the City Zoning Board to proceed with a two-story addition to mill, 50x64 ft., for storage service. Plans for the unit are being completed by John F. Kelly, Post Office Building, Passaic, architect.

Burlington (N. C.) Dyeing & Finishing Co. reported placing contracts for piece goods dyeing and finishing machinery so that when a suitable location is secured for the housing of this machinery it can be installed without delay.

Puritan Textile Printing Co., Central Falls, R. I., has filed notice of organization. The company is reported planning operation of a local print works at 79 Chestnut St. Peter Franz is head.

Miscellaneous

DuPont Cellophane Co., Buffalo, N. Y., manufacturer of transparent wrapping material, will take over portion of plant of DuPont Rayon Co., on River Rd., and will convert for its line of manufacture. The expansion program will cost close to $2,000,000, with machinery.

Sealy Mattress Co., Houston, Tex., has arranged for an increase in capital from $150,000 to $200,000.

Sylvania Industrial Corp., manufacturer of "Sylphrap," transparent cellulose paper, has started construction of a $1,000,000 addition to its plant at Fredericksburg, Va.

RECENT TEXTILE MILL STATEMENTS

Name and Address of Company	Line of Business	Fiscal Year	Assets						Total	Liabilities and Capital		
			Cash and Debts Receivable	Raw Materials, Mdse., Etc.	Total Quick Assets	Real Estate, Buildings and Machinery	Miscellaneous Amount	Miscellaneous Description		Accounts Payable, Floating and Funded Debt	Capital Stock	Surplus Profit and Loss Reserves Etc.
			$	$	$	$	$		$	$	$	$
American Printing Co. Fall River, Mass.	Cotton	Dec. 31, 1930	6,947,388	2,560,803	9,508,191	5,904,802	111,006	Prepaid	15,523,999	3,139,193	2,000,000	10,384,806
		Dec. 31, 1929	8,501,746	2,104,084	10,605,830	6,134,493	106,750	Prepaid	16,847,073	2,973,168	2,000,000	11,873,905
Borden Mills, Inc. Kingsport, Tenn.....	Cotton	Dec. 31, 1930	79,285	572,796	652,081	2,739,612	(1)119,923	Miscellaneous	3,511,616	2,761,616	750,000	.....
		Dec. 31, 1929	40,872	362,185	403,057	2,891,658	96,831	Prepaid	3,391,546	2,534,217	750,000	107,329
Hayward Woolen Co. East Douglas, Mass.	Wool	Dec. 31, 1930	509,457	249,536	758,993	574,626	600	Miscellaneous	1,334,219	.....	600,000	734,219
		Dec. 31, 1929	695,010	308,642	1,003,652	582,520	600	Miscellaneous	1,586,772	125,852	600,000	860,920
Mayo Woolen Mills Co. Millbury, Mass.	Wool	Dec. 31, 1930	62,882	332,745	395,627	596,320	(2)701,263	Miscellaneous	1,693,210	1,010,810	500,000	182,400
		Dec. 31, 1929	55,630	354,420	410,050	598,590	(3)702,125	Miscellaneous	1,710,765	1,030,328	500,000	180,437
Winnsboro Mills Winnsboro, S. C.	Cotton	Dec. 31, 1930	1,394,087	632,056	2,026,143	3,952,061	59,872	Miscellaneous	6,038,076	2,050,490	2,000,000	1,987,586
		Dec. 31, 1929	1,043,881	1,259,489	2,303,370	7,392,600	67,695	Miscellaneous	9,763,665	2,624,851	2,000,000	5,138,814
Taunton Knitting Co. Taunton, Mass.	Knit	Dec. 31, 1930	52,067	123,604	175,671	169,359	3,178	Deferred Chgs.	348,208	41,409	291,800	(4)110,207
		Dec. 31, 1929	71,398	165,739	237,137	168,621	3,567	Deferred Chgs.	409,325	64,497	291,800	(5)114,297
Taft Woolen Co. Careyville, Mass.	Wool	Dec. 31, 1930	77,745	74,307	152,052	411,744	75,276	Miscellaneous	639,072	2,713	330,000	306,359
		Dec. 31, 1929	317,708	69,294	387,002	305,036	75,276	Miscellaneous	767,314	41,231	330,000	396,083
Collins & Aikman Corp. New York, N. Y.	Cotton, Wool Silk	Feb. 28, 1931	3,433,209	5,155,885	8,589,094	11,714,224	1,176,838	Miscellaneous	21,480,156	602,862	18,520,000	2,357,294
		Feb. 28, 1930	3,197,781	7,183,068	10,380,849	12,201,219	921,600	Miscellaneous	23,503,668	1,068,756	19,760,000	2,674,912
Cannon Mills Co. Kannopolis, N. C.	Cotton	Dec. 31, 1930	13,143,654	6,982,235	20,125,889	13,177,458	1,047,182	Miscellaneous	34,350,529	1,173,726	25,000,000	8,176,803
		Dec. 31, 1929	15,336,144	7,856,946	23,193,090	13,686,770	837,729	Miscellaneous	37,717,589	4,232,514	25,000,000	8,485,075

(1) Includes profit and loss item of $41,479.
(2) Includes profit and loss item of $690,686.
(3) Includes profit and loss item of $689,029.
(4) Deduct deficit of $95,207.
(5) Deduct deficit of $61,269.

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